

L1 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1995:89751 HCAPLUS

DOCUMENT NUMBER: 122:30375

TITLE: The effect of folate and cobalamin on osteoarthritic hands

AUTHOR(S): Flynn, Margaret A.; Irvin, William; Krause, Gary

CORPORATE SOURCE: Department of Family and Community Medicine,
University of Missouri, Columbia, MO, USA

SOURCE: Journal of the American College of Nutrition (1994),
13(4), 351-6

CODEN: JONU DL; ISSN: 0731-5724

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Historically diet and arthritis have been cause/effect assocd. but the idea is controversial with little evidence that specific diet components are effective treatment. This controlled, doubleblinded, crossover study reports the effect of folate and cobalamin supplements in 26 humans diagnosed for an av. 5.7 yr with idiopathic osteoarthritis of the hands who had been medicated by prescribed nonsteroidal anti-inflammatory drugs (NSAID). The subjects were randomly allocated to consume daily 6400 .mu.g folate or 6400 .mu.g folate plus 20 .mu.g cobalamin or lactose placebo each for 2 mo within self-selected diets. Pain was to be medicated by acetaminophen as needed, and at the end of each phase they returned for assessment and dispensing of the next treatment. For all subjects mean right and left hand grip values were higher with combined cobalamin-folate ingestion than with other "vitamin" supplements and were equiv. to NSAID use. No. of tender hand joints were greater with use of NSAID than with use of cobalamin-folate. Side effects with the vitamin combination were none; side effects of NSAID are many, and the cost of vitamins and acetaminophen also is lower. The limited no. of subjects in this study demonstrates that ingestion of a prescribed cobalamin-folate supplement and acetaminophen as needed resulted in pos. outcomes.

IT Arthritis
Hand

(dietary folate and cobalamin effect on osteoarthritic hands)

IT 59-30-3, biological studies 103-90-2, Acetaminophen 13408-78-1,
Cobalamin

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(dietary folate and cobalamin effect on osteoarthritic hands)

=>

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=> d all tot 167

L67 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2002 ACS

AN 2002:540256 HCAPLUS

DN 137:114515

TI Compositions containing reduced **folate** for treating an **arthritic** condition

IN Roubenoff, Ronenn; Selhub, Jacob

PA USA

SO U.S. Pat. Appl. Publ., 8 pp.

CODEN: USXXCO

DT Patent

LA English

IC ICM A61K031-714

ICS A61K031-525

NCL 514052000

CC 63-6 (Pharmaceuticals)

Section cross-reference(s): 1

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002094970	A1	20020718	US 2001-20634	20011214
PRAI	US 2000-255600P	P	20001214		

AB The present invention features compns. contg. a reduced **folate** (0.01-500 mg/day) and a **cobalamin** compd. (0.0002-1 mg/day) for the treatment of an **arthritic** condition, such as **osteoarthritis**. The compn. further comprises a **betaine** compd. (50-20,000 mg/day). The compds. are administered orally or by other std. routes, e.g., i.m. or i.v. For example, 50 mg 5-**methyltetrahydrofolate** in combination with 1 mg vitamin B12 per day is administered to reduce joint pain and improve mobility or phys. performance in patients with **osteoarthritis**.

ST reduced **folate** **cobalamin** antiarthritic

chondrocyte protection

IT Cytoprotective agents

(chondroprotective; compns. contg. reduced **folate** and **cobalamin** for treating **arthritic** conditions)

IT **Antiarthritics**
Arthritis
Drug delivery systems
Osteoarthritis
(compns. contg. reduced **folate** and **cobalamin** for treating **arthritic** conditions)

IT **Betaines**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(compns. contg. reduced **folate**, **cobalamin**, and **betaine** compds. for treating **arthritic** conditions)

IT **Chondrocyte**
(protection; compns. contg. reduced **folate** and **cobalamin** for treating **arthritic** conditions)

IT 58-05-9 134-35-0 135-16-0 2311-81-1
2800-34-2 3432-99-3 10360-12-0
13408-78-1, **Cobalamin** 31690-09-2
31690-11-6 68538-85-2 71963-69-4, (6S)-
Tetrahydrofolic acid 74644-66-9 113974-18-8
442634-22-2
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(compns. contg. reduced **folate** and **cobalamin** for treating **arthritic** conditions)

IT 59-30-3, **Folic acid**, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(compns. contg. reduced **folate**, but not **folic acid**, and **cobalamin** for treating **arthritic** conditions)

L67 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2002 ACS

AN 2001:12196 HCAPLUS

DN 134:55807

TI Prophylactic dietary supplement based on milk

IN Elliott, Robert Bartlett; Laugesen, Brian Murray

PA The New Zealand Milk Institute Limited, N. Z.

SO PCT Int. Appl., 32 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM A23L001-305

CC 17-8 (Food and Feed Chemistry)

Section cross-reference(s): 63

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001000047	A1	20010104	WO 2000-NZ116	20000629
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE			
EP 1196047	A1	20020417	EP 2000-942589	20000629
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
PRAI NZ 1999-336505	A	19990629		
NZ 2000-504057	A	20000418		
WO 2000-NZ116	W	20000629		

AB Milk is commonly and extensively consumed in many societies where the risk

and incidence of diabetes, vascular disease (CHD, CVA, PVD) and some cancers are also high. Death is a frequent sequel of systemic vascular wall damage, resulting from exposure to high sugar levels in diabetes and also from high plasma homocyst(e)ine (tHcy) levels that affect much of the population and comprise a major risk factor for vascular disease. Diabetes is similarly widespread. Given (1) widespread and regular consumption of milk, (2) the possibility to control tHcy by treating the underlying **folate** (and other vitamin) insufficiency, (3) the opportunity to simply include control of neural tube defects and (4) the presumed causal link between diabetes and type A1 with type B casein consumption, the invention offers remediation by supplying a population with a modified milk or milk product including (1) fortification using **cobalamin**, pyridoxine, **folic acid**, and **betaine**, with (2) a substantially type A2 casein fraction only. In addn., exploitation of the immunol. properties of beta-casomorphin 9 (a peptide digest fraction of A2 beta-casein) may assist in control of diabetes. Practical and convenient fortified diets include treated, selected milk and food products including derivs. of milk, also selected milk together with treated cereals.

ST food supplement milk medication

IT Milk

(prophylactic dietary supplement based on milk)

IT Blood vessel, disease

(prophylactic dietary supplement based on milk for controlling)

IT Diabetes mellitus

(prophylactic dietary supplement based on milk for treatment of)

IT Diet

(supplements; prophylactic dietary supplement based on milk)

IT 6027-13-0, Homocysteine

RL: BSU (Biological study, unclassified); BIOL (Biological study)

(prophylactic dietary supplement based on milk in relation to blood)

IT 59-30-3, **Folic acid**, biological studies 65-23-6,

Pyridoxine 107-43-7, **Betaine** 13408-78-1,

Cobalamin

RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(prophylactic dietary supplement based on milk with)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Bristol-Myers Squibb Co; WO 9819690 1998 HCAPLUS

(2) Koehler; J of American Dietetic Association 1997, V97, P167 HCAPLUS

(3) Linnell; Bailliaere's Clinical Haematology 1995, V8, P567 MEDLINE

(4) Nutricia, N; EP 951842 1999 HCAPLUS

(5) Nutricia, N; WO 9903365 1999 HCAPLUS

(6) Parodi, P; The Australian J of Dairy Technology 1997, V52, P109 HCAPLUS

(7) Shapira, N; WO 9734497 HCAPLUS

(8) Shapira, N; WO 9913737 1999 HCAPLUS

L67 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2002 ACS

AN 1995:89751 HCAPLUS

DN 122:30375

TI The effect of **folate** and **cobalamin** on
osteoarthritic hands

AU Flynn, Margaret A.; Irvin, William; Krause, Gary

CS Department of Family and Community Medicine, University of Missouri,
Columbia, MO, USA

SO J. Am. Coll. Nutr. (1994), 13(4), 351-6

CODEN: JONUDL; ISSN: 0731-5724

DT Journal

LA, English

CC 18-2 (Animal Nutrition)

AB Historically diet and **arthritis** have been cause/effect assocd.

but the idea is controversial with little evidence that specific diet

components are effective treatment. This controlled, doubleblinded, crossover study reports the effect of **folate** and **cobalamin** supplements in 26 humans diagnosed for an av. 5.7 yr with idiopathic **osteoarthritis** of the hands who had been medicated by prescribed nonsteroidal anti-inflammatory drugs (NSAID). The subjects were randomly allocated to consume daily 6400 .mu.g folate or 6400 .mu.g **folate** plus 20 .mu.g **cobalamin** or lactose placebo each for 2 mo within self-selected diets. Pain was to be medicated by acetaminophen as needed, and at the end of each phase they returned for assessment and dispensing of the next treatment. For all subjects mean right and left hand grip values were higher with combined **cobalamin-folate** ingestion than with other "vitamin" supplements and were equiv. to NSAID use. No. of tender hand joints were greater with use of NSAID than with use of **cobalamin-folate**. Side effects with the vitamin combination were none; side effects of NSAID are many, and the cost of vitamins and acetaminophen also is lower. The limited no. of subjects in this study demonstrates that ingestion of a prescribed **cobalamin-folate** supplement and acetaminophen as needed resulted in pos. outcomes.

ST **folate cobalamin diet arthritis hand**

IT **Arthritis**

Hand

(dietary **folate** and **cobalamin** effect on
osteoarthritic hands)

IT 59-30-3, biological studies 103-90-2, Acetaminophen
13408-78-1, **Cobalamin**

RL: BAC (Biological activity or effector, except adverse); THU
(Therapeutic use); BIOL (Biological study); USES (Uses)

(dietary **folate** and **cobalamin** effect on
osteoarthritic hands)

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DICTIONARY FILE UPDATES: 24 AUG 2002 HIGHEST RN 444843-63-4

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for more information. See STNote 27, Searching Properties in the CAS
Registry File, for complete details:

<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

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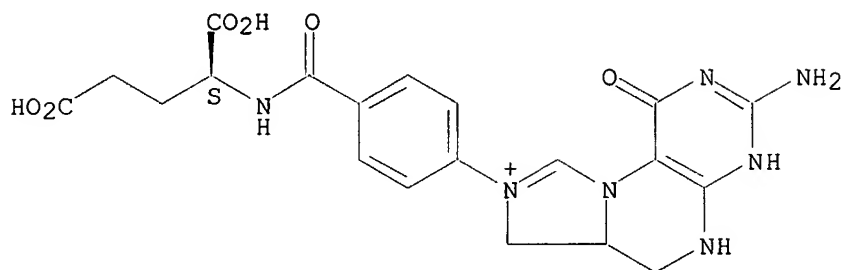
L68 ANSWER 1 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 442634-22-2 REGISTRY

CN Imidazo[1,5-f]pteridinium, 3-amino-8-[4-[[[(1S)-1,3-
dicarboxypropyl]amino]carbonyl]phenyl]-1,2,5,6,6a,7-hexahydro-1-oxo- (9CI)

(CA INDEX NAME)
 FS STEREOSEARCH
 MF C20 H22 N7 O6
 SR CA
 LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 137:114515

L68 ANSWER 2 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 113974-18-8 REGISTRY

CN L-Glutamic acid, N-[4-[[[(6S)-2-amino-1,4,5,6,7,8-hexahydro-5-(iminomethyl)-4-oxo-6-pteridiny]methyl]amino]benzoyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN L-Glutamic acid, N-[4-[[[2-amino-1,4,5,6,7,8-hexahydro-5-(iminomethyl)-4-oxo-6-pteridiny]methyl]amino]benzoyl]-, (S)-

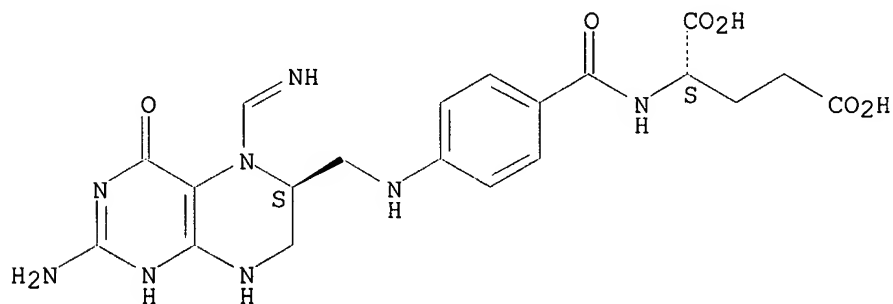
FS STEREOSEARCH

MF C20 H24 N8 O6

SR CA

LC STN Files: BEILSTEIN*, CA, CAPLUS, USPATFULL
 (*File contains numerically searchable property data)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

4 REFERENCES IN FILE CA (1967 TO DATE)
 4 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 137:114515

REFERENCE 2: 131:78463

REFERENCE 3: 127:189892

REFERENCE 4: 108:182755

L68 ANSWER 3 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 74644-66-9 REGISTRY

CN L-Glutamic acid, N-[4-[[[(6R)-2-amino-1,4,5,6,7,8-hexahydro-4-oxo-6-pteridiny]methyl]formylamino]benzoyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN L-Glutamic acid, N-[4-[[[(2-amino-1,4,5,6,7,8-hexahydro-4-oxo-6-pteridiny]methyl]formylamino]benzoyl]-, (R)-

OTHER NAMES:

CN (6R)-10-Formyl-5,6,7,8-tetrahydrofolic acid

CN (6R)-10-Formyltetrahydrofolic acid

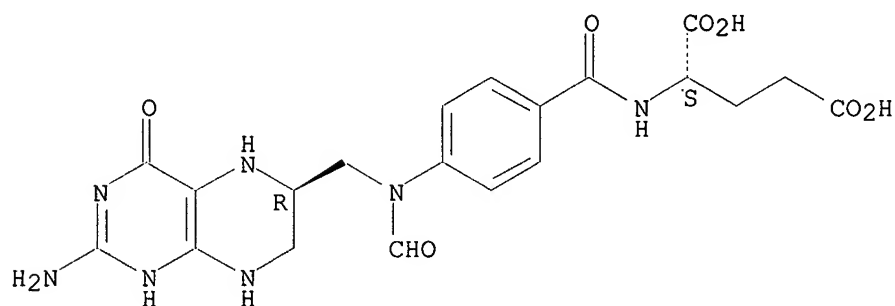
FS STEREOSEARCH

MF C20 H23 N7 O7

CI COM

LC STN Files: BEILSTEIN*, CA, CAPLUS, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

16 REFERENCES IN FILE CA (1967 TO DATE)

2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

16 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 137:114515

REFERENCE 2: 133:207735

REFERENCE 3: 132:30292

REFERENCE 4: 131:78463

REFERENCE 5: 127:189892

REFERENCE 6: 125:295895

REFERENCE 7: 118:73128

REFERENCE 8: 117:27104

REFERENCE 9: 112:72678

REFERENCE 10: 106:46382

L68 ANSWER 4 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 71963-69-4 REGISTRY

CN L-Glutamic acid, N-[4-[[[(6S)-2-amino-1,4,5,6,7,8-hexahydro-4-oxo-6-pteridinyl]methyl]amino]benzoyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN L-Glutamic acid, N-[4-[[[(2-amino-1,4,5,6,7,8-hexahydro-4-oxo-6-pteridinyl)methyl]amino]benzoyl]-, (S)-

OTHER NAMES:

CN (6S)-5,6,7,8-Tetrahydrofolic acid

CN (6S)-Tetrahydrofolic acid

FS STEREOSEARCH

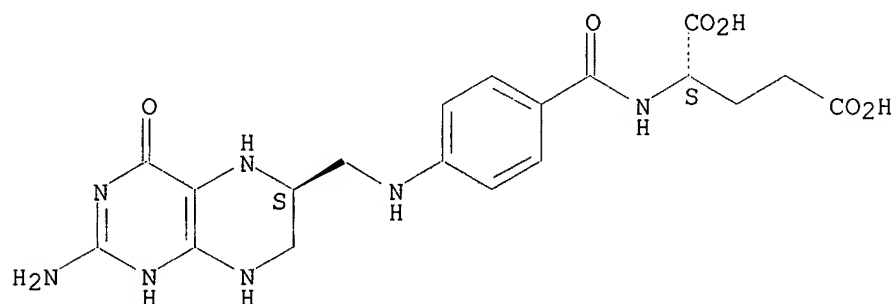
MF C19 H23 N7 O6

CI COM

LC STN Files: BEILSTEIN*, BIOSIS, CA, CAPLUS, CASREACT, TOXCENTER, USPATFULL

(*File contains numerically searchable property data)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

55 REFERENCES IN FILE CA (1967 TO DATE)

2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

55 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 137:114515

REFERENCE 2: 135:314428

REFERENCE 3: 134:116234

REFERENCE 4: 134:101010

REFERENCE 5: 133:151045

REFERENCE 6: 132:194604

REFERENCE 7: 132:30292

REFERENCE 8: 131:78463

REFERENCE 9: 127:346621

REFERENCE 10: 127:189892

L68 ANSWER 5 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 68538-85-2 REGISTRY

CN L-Glutamic acid, N-[4-[[[(6S)-2-amino-5-formyl-1,4,5,6,7,8-hexahydro-4-oxo-6-pteridinyl]methyl]amino]benzoyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN L-Glutamic acid, N-[4-[(2-amino-5-formyl-1,4,5,6,7,8-hexahydro-4-oxo-6-pteridinyl)methyl]amino]benzoyl]-, (S)-

OTHER NAMES:

CN (6S)-5-Formyl-5,6,7,8-tetrahydrofolic acid

CN (6S)-Folinic acid

CN (6S)-Leucovorin

CN (S)-Leucovorin

CN Citrovorum factor

CN L-Folinic acid

CN LFP 754

FS STEREOSEARCH

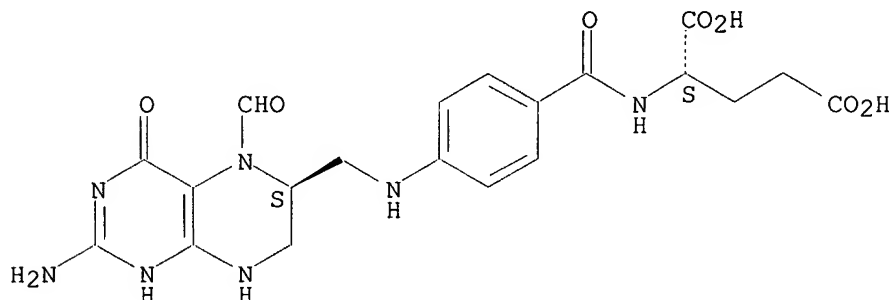
DR 121451-09-0

MF C20 H23 N7 O7

CI COM

LC STN Files: ADISNEWS, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, DDFU, DRUGPAT, DRUGU, EMBASE, MEDLINE, PROMT, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)

Absolute stereochemistry. Rotation (-).



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

139 REFERENCES IN FILE CA (1967 TO DATE)

5 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

139 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 137:114515

REFERENCE 2: 136:366953

REFERENCE 3: 136:350248

REFERENCE 4: 136:272804

REFERENCE 5: 135:352173

REFERENCE 6: 135:266712

REFERENCE 7: 135:236039

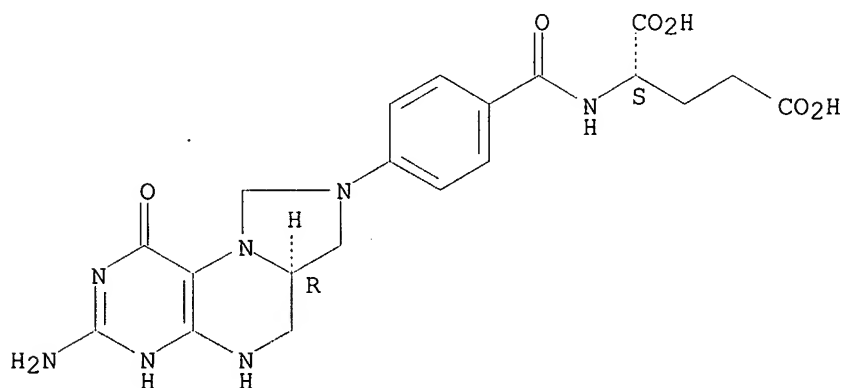
REFERENCE 8: 135:226285

REFERENCE 9: 135:210383

REFERENCE 10: 135:146901

.L68 ANSWER 6 OF 17 REGISTRY COPYRIGHT 2002 ACS
 RN 31690-11-6 REGISTRY
 CN L-Glutamic acid, N-[4-[(6aR)-3-amino-1,2,5,6,6a,7-hexahydro-1-oxoimidazo[1,5-f]pteridin-8(9H)-yl]benzoyl]- (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Glutamic acid, N-[p-(3-amino-5,6,6a,7-tetrahydro-1-hydroxyimidazo[1,5-f]pteridin-8(9H)-yl)benzoyl]-, L-(+)- (8CI)
 CN L-Glutamic acid, N-[4-(3-amino-1,2,5,6,6a,7-hexahydro-1-oxoimidazo[1,5-f]pteridin-8(9H)-yl)benzoyl]-, (R)-
 OTHER NAMES:
 CN (6R)-5,10-Methylene-5,6,7,8-tetrahydrofolic acid
 CN (6R)-5,10-Methylenetetrahydrofolate
 CN d-N5,N10-Methylene-L-tetrahydrofolic acid
 CN L-(+)-Methylenetetrahydrofolic acid
 FS STEREOSEARCH
 DR 1596-87-8, 14357-00-7, 20302-77-6, 51353-86-7, 52746-47-1
 MF C20 H23 N7 O6
 CI COM
 LC STN Files: BEILSTEIN*, CA, CAPLUS, TOXCENTER, USPATFULL.
 (*File contains numerically searchable property data)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

50 REFERENCES IN FILE CA (1967 TO DATE)
 4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 50 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 137:114515
 REFERENCE 2: 136:345818
 REFERENCE 3: 135:284889
 REFERENCE 4: 132:30292
 REFERENCE 5: 131:78463
 REFERENCE 6: 131:41426
 REFERENCE 7: 129:51325

REFERENCE 8: 127:189892

REFERENCE 9: 126:274058

REFERENCE 10: 122:306039

L68 ANSWER 7 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 31690-09-2 REGISTRY

CN L-Glutamic acid, N-[4-[[[(6S)-2-amino-1,4,5,6,7,8-hexahydro-5-methyl-4-oxo-6-pteridiny]methyl]amino]benzoyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Glutamic acid, N-[p-[[[(2-amino-5,6,7,8-tetrahydro-4-hydroxy-5-methyl-6-pteridiny]methyl]amino]benzoyl]-, L-(-)- (8CI)

CN L-Glutamic acid, N-[4-[[[(2-amino-1,4,5,6,7,8-hexahydro-5-methyl-4-oxo-6-pteridiny]methyl]amino]benzoyl]-, (S)-

OTHER NAMES:

CN (6S)-5-Methyltetrahydrofolic acid

CN 1-N5-Methyl-L-tetrahydrofolic acid

FS STEREOSEARCH

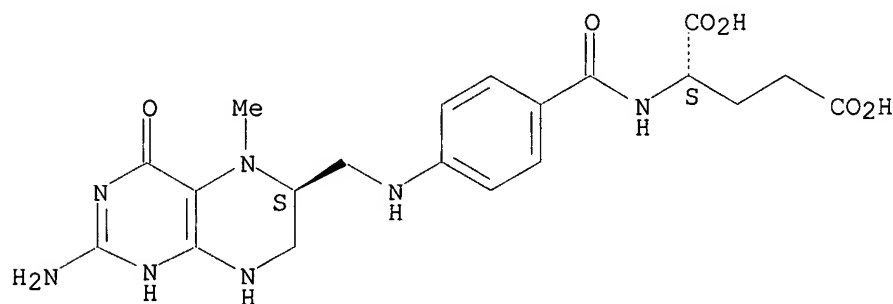
DR 150950-03-1

MF C20 H25 N7 O6

CI COM

LC STN Files: BEILSTEIN*, CA, CAPLUS, IPA, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

47 REFERENCES IN FILE CA (1967 TO DATE)

3 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

47 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 137:114515

REFERENCE 2: 136:345818

REFERENCE 3: 134:349493

REFERENCE 4: 133:331357

REFERENCE 5: 132:30292

REFERENCE 6: 131:78463

REFERENCE 7: 131:69925

REFERENCE 8: 126:340207

REFERENCE 9: 124:110907

REFERENCE 10: 122:259142

L68 ANSWER 8 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 13408-78-1 REGISTRY

CN Cobinamide, dihydrogen phosphate (ester), inner salt, 3'-ester with (5,6-dimethyl-1-.alpha.-D-ribofuranosyl-1H-benzimidazole-.kappa.N3), ion(1+) (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Cobinamide, hydroxide, ion(1+), dihydrogen phosphate (ester), inner salt, 3'-ester with 5,6-dimethyl-1-.alpha.-D-ribofuranosyl-1H-benzimidazole

CN Cobinamide, hydroxide, ion(1+), dihydrogen phosphate (ester), inner salt, 3'-ester with 5,6-dimethyl-1-.alpha.-D-ribofuranosylbenzimidazole (8CI)

CN Cobinamide, ion(1+), dihydrogen phosphate (ester), inner salt, 3'-ester with 5,6-dimethyl-1-.alpha.-D-ribofuranosyl-1H-benzimidazole

OTHER NAMES:

CN Cobalamin

CN Cobalamine

DR 58846-82-5

MF C62 H88 Co N13 O14 P

CI CCS, COM

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CIN, CSCHEM, DDFU, DIOGENES, DRUGU, EMBASE, NIOSHTIC, PROMT, TOXCENTER, USPATFULL

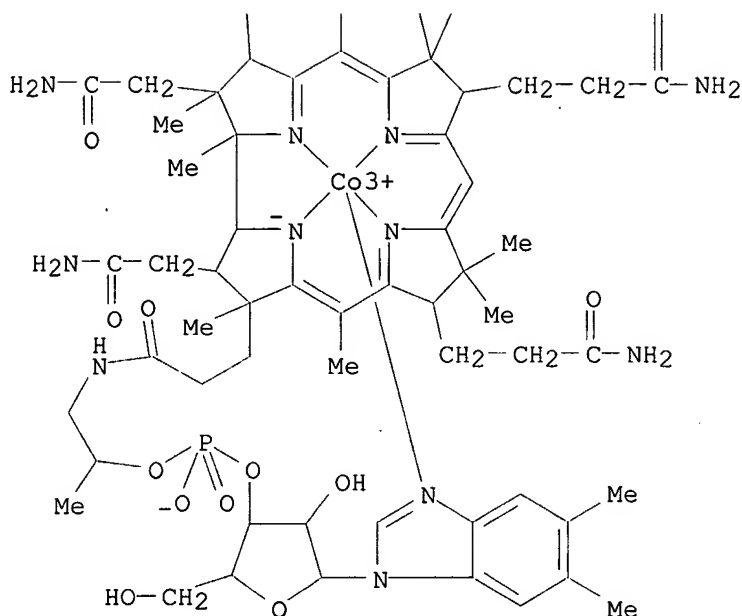
Other Sources: EINECS**

(**Enter CHEMLIST File for up-to-date regulatory information)

PAGE 1-A



PAGE 2-A



885 REFERENCES IN FILE CA (1967 TO DATE)
 149 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 885 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 137:124548
 REFERENCE 2: 137:123889
 REFERENCE 3: 137:114515
 REFERENCE 4: 137:88425
 REFERENCE 5: 137:74540
 REFERENCE 6: 137:63184
 REFERENCE 7: 137:57367
 REFERENCE 8: 137:57290
 REFERENCE 9: 137:16485
 REFERENCE 10: 136:399942

L68 ANSWER 9 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 10360-12-0 REGISTRY

CN Imidazo[1,5-f]pteridinium, 3-amino-8-[4-[[[(1S)-1,3-dicarboxypropyl]amino]carbonyl]phenyl]-1,2,5,6,6a,7-hexahydro-1-oxo-, (6aR)- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Imidazo[1,5-f]pteridinium, 3-amino-8-[4-[[[(1,3-dicarboxypropyl)amino]carbonyl]phenyl]-1,2,5,6,6a,7-hexahydro-1-oxo-

CN Imidazo[1,5-f]pteridinium, 3-amino-8-[p-[(1,3-dicarboxypropyl)carbamoyl]phenyl]-5,6,6a,7-tetrahydro-1-hydroxy- (8CI)

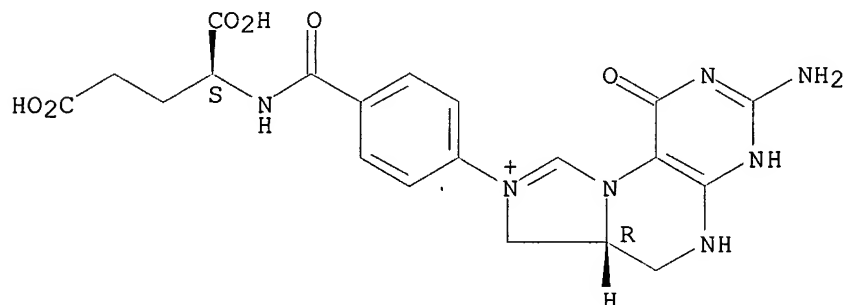
OTHER NAMES:

CN 5,10-Methenyltetrahydrofolic acid

CN Folic acid, tetrahydro-N9,N10-methylidene-

CN N5,N10-Methenyltetrahydrofolic acid
 FS STEREOSEARCH
 DR 16531-85-4, 102274-60-2, 65981-92-2, 73611-11-7, 88830-88-0, 40245-00-9,
 49553-77-7
 MF C20 H22 N7 O6
 CI COM
 LC STN Files: AGRICOLA, CA, CAPLUS, TOXCENTER, USPATFULL

Absolute stereochemistry.



80 REFERENCES IN FILE CA (1967 TO DATE)
 5 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 80 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 137:114515
 REFERENCE 2: 136:345818
 REFERENCE 3: 136:107523
 REFERENCE 4: 136:11204
 REFERENCE 5: 136:4848
 REFERENCE 6: 135:357075
 REFERENCE 7: 135:356337
 REFERENCE 8: 135:148597
 REFERENCE 9: 134:127680
 REFERENCE 10: 133:219369

L68 ANSWER 10 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 3432-99-3 REGISTRY

CN L-Glutamic acid, N-[4-(3-amino-1,2,5,6,6a,7-hexahydro-1-oxoimidazo[1,5-f]pteridin-8(9H)-yl)benzoyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Glutamic acid, N-[p-(3-amino-5,6,6a,7-tetrahydro-1-hydroxyimidazo[1,5-f]pteridin-8(9H)-yl)benzoyl]-, L- (8CI)

CN Imidazo[1,5-f]pteridine, L-glutamic acid deriv.

OTHER NAMES:

CN (+)-5,10-Methylene-5,6,7,8-tetrahydrofolic acid

CN 5,10-Methylene-5,6,7,8-tetrahydrofolic acid

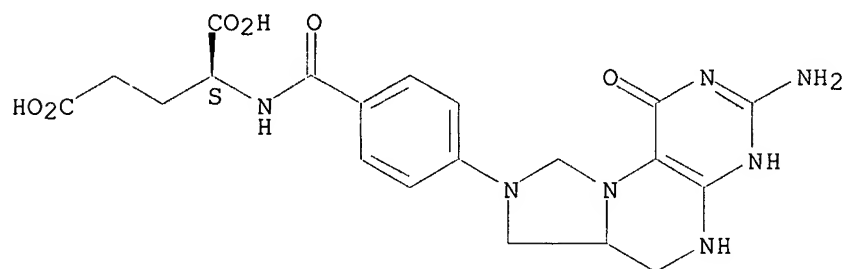
CN 5,10-Methylenetetrahydrofolic acid

CN Folic acid, tetrahydro-N5,N10-methylene-

CN N5,N10-Methylene-5,6,7,8-tetrahydrofolic acid

CN N5,N10-Methylenetetrahydrofolic acid
 CN N5,N10-Methylenetetrahydropteroylglutamic acid
 FS STEREOSEARCH
 DR 14948-92-6, 23284-08-4, 39939-22-5, 42578-82-5
 MF C20 H23 N7 O6
 CI COM
 LC STN Files: AGRICOLA, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA,
 CANCERLIT, CAOLD, CAPLUS, CASREACT, DDFU, DRUGU, EMBASE, MEDLINE,
 TOXCENTER, USPATFULL
 (*File contains numerically searchable property data)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

438 REFERENCES IN FILE CA (1967 TO DATE)
 51 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 438 REFERENCES IN FILE CAPLUS (1967 TO DATE)
 9 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:114515
 REFERENCE 2: 137:29715
 REFERENCE 3: 136:345818
 REFERENCE 4: 136:163249
 REFERENCE 5: 136:107523
 REFERENCE 6: 136:11204
 REFERENCE 7: 136:4848
 REFERENCE 8: 135:357075
 REFERENCE 9: 135:355679
 REFERENCE 10: 135:315433

L68 ANSWER 11 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 2800-34-2 REGISTRY

CN L-Glutamic acid, N-[4-[[[2-amino-1,4,5,6,7,8-hexahydro-4-oxo-6-pteridiny]methyl]formylamino]benzoyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Glutamic acid, N-[p-[N-[(2-amino-5,6,7,8-tetrahydro-4-hydroxy-6-pteridiny]methyl]formamido]benzoyl]- (7CI)

CN Glutamic acid, N-[p-[N-[(2-amino-5,6,7,8-tetrahydro-4-hydroxy-6-

pteridiny]methyl]formamido]benzoyl]-, L- (8CI)

OTHER NAMES:

CN 10-Formyl-5,6,7,8-tetrahydrofolic acid
 CN 10-Formyltetrahydrofolate
 CN 10-Formyltetrahydrofolic acid
 CN 10-Formyltetrahydropteroylglutamic acid
 CN N10-Formyl-5,6,7,8-tetrahydrofolic acid
 CN N10-Formyltetrahydrofolate
 CN N10-Formyltetrahydrofolic acid
 CN N10-Formyltetrahydropteroylglutamate

FS STEREOSEARCH

DR 18656-95-6

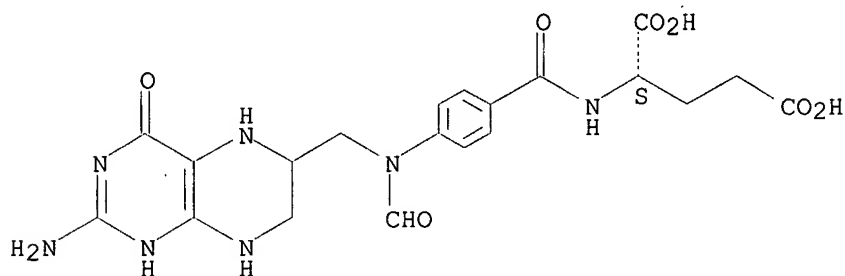
MF C20 H23 N7 O7

CI COM

LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CANCERLIT, CAOLD, CAPLUS, DDFU, DRUGU, EMBASE, MEDLINE, NIOSHTIC, TOXCENTER, USPATFULL

(*File contains numerically searchable property data)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

278 REFERENCES IN FILE CA (1967 TO DATE)
 5 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 278 REFERENCES IN FILE CAPLUS (1967 TO DATE)
 22 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:114515

REFERENCE 2: 136:397744

REFERENCE 3: 136:345818

REFERENCE 4: 136:306536

REFERENCE 5: 136:107523

REFERENCE 6: 136:83063

REFERENCE 7: 136:11204

REFERENCE 8: 136:4848

REFERENCE 9: 135:357075

REFERENCE 10: 135:355679

L68 ANSWER 12 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 2311-81-1 REGISTRY

CN L-Glutamic acid, N-[4-[[[2-amino-1,4,5,6,7,8-hexahydro-5-(iminomethyl)-4-oxo-6-pteridiny]methyl]amino]benzoyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Glutamic acid, N-[p-[[[2-amino-5-formimidoyl-5,6,7,8-tetrahydro-4-hydroxy-6-pteridiny]methyl]amino]benzoyl]- (6CI, 7CI)

CN Glutamic acid, N-[p-[[[2-amino-5-formimidoyl-5,6,7,8-tetrahydro-4-hydroxy-6-pteridiny]methyl]amino]benzoyl]-, L- (8CI)

CN L-Glutamic acid, N-[4-[[[2-amino-3,4,5,6,7,8-hexahydro-5-(iminomethyl)-4-oxo-6-pteridiny]methyl]amino]benzoyl]-

OTHER NAMES:

CN 5-Formiminotetrahydrofolic acid

CN Formiminotetrahydrofolic acid

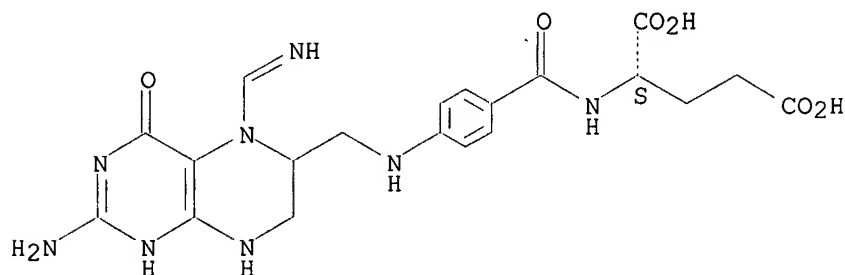
FS STEREOSEARCH

DR 7643-76-7, 42578-83-6

MF C20 H24 N8 O6

LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

14 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

14 REFERENCES IN FILE CAPLUS (1967 TO DATE)

7 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:114515

REFERENCE 2: 135:357075

REFERENCE 3: 134:320864

REFERENCE 4: 133:175691

REFERENCE 5: 129:199794

REFERENCE 6: 118:37975

REFERENCE 7: 116:209567

REFERENCE 8: 112:50439

REFERENCE 9: 110:207630

REFERENCE 10: 103:192265

L68 ANSWER 13 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 135-16-0 REGISTRY

CN L-Glutamic acid, N-[4-[[[(2-amino-1,4,5,6,7,8-hexahydro-4-oxo-6-pteridinyl)methyl]amino]benzoyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Glutamic acid, N-[p-[[[(2-amino-3,4,5,6,7,8-hexahydro-4-oxo-6-pteridinyl)methyl]amino]benzoyl]-, L- (7CI, 8CI)

OTHER NAMES:

CN (-)-L-5,6,7,8-Tetrahydrofolic acid

CN 5,6,7,8-Tetrahydrofolic acid

CN L-5,6,7,8-Tetrahydrofolic acid

CN Tetrahydrofolic acid

CN Tetrahydropteroylglutamic acid

CN THFA

FS STEREOSEARCH

DR 60201-89-0, 18632-03-6, 14231-42-6, 15582-27-1, 4172-42-3

MF C19 H23 N7 O6

CI COM

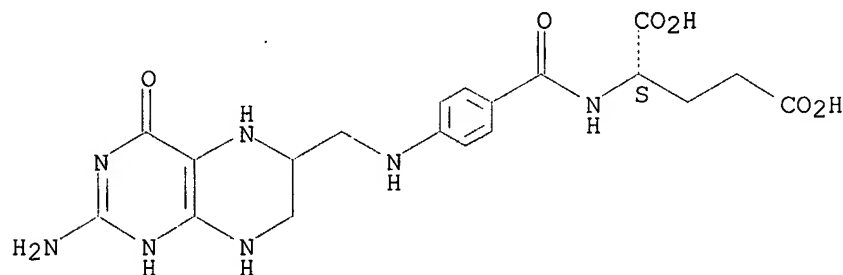
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CIN, CSCHEM, DDFU, DRUGU, EMBASE, IPA, MSDS-OHS, PIRA, PROMT, RTECS*, TOXCENTER, USPATFULL, VETU

(*File contains numerically searchable property data)

Other Sources: EINECS**

(**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

849 REFERENCES IN FILE CA (1967 TO DATE)

65 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

849 REFERENCES IN FILE CAPLUS (1967 TO DATE)

3 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:114515

REFERENCE 2: 137:90132

REFERENCE 3: 137:90059

REFERENCE 4: 137:88425

REFERENCE 5: 137:60320

REFERENCE 6: 137:59018

REFERENCE 7: 137:57568

REFERENCE 8: 137:37398

REFERENCE 9: 137:20068

REFERENCE 10: 136:382040

L68 ANSWER 14 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 134-35-0 REGISTRY

CN L-Glutamic acid, N-[4-[[[(2-amino-1,4,5,6,7,8-hexahydro-5-methyl-4-oxo-6-pteridiny]methyl]amino]benzoyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Glutamic acid, N-[p-[[[(2-amino-5,6,7,8-tetrahydro-4-hydroxy-5-methyl-6-pteridiny]methyl]amino]benzoyl]- (6CI)

CN Glutamic acid, N-[p-[[[(2-amino-5,6,7,8-tetrahydro-4-hydroxy-5-methyl-6-pteridiny]methyl]amino]benzoyl]-, L- (8CI)

OTHER NAMES:

CN 5-Methyl-5,6,7,8-tetrahydrofolic acid

CN 5-Methyl-5,6,7,8-tetrahydropteroyl-L-glutamic acid

CN 5-Methyltetrahydrofolic acid

CN 5-Methyltetrahydropteroyl monoglutamate

CN 5-Methyltetrahydropteroylglutamic acid

CN N-Methyltetrahydrofolate

CN N-Methyltetrahydrofolic acid

CN N5-Methyltetrahydrofolate

CN N5-Methyltetrahydrofolic acid

CN N5-Methyltetrahydropteroylglutamate

CN Prefolic A

FS STEREOSEARCH

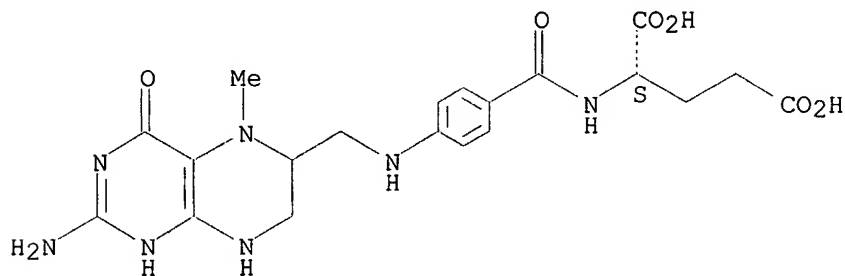
DR 3922-58-5, 76937-22-9

MF C20 H25 N7 O6

CI COM

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CIN, DDFU, DRUGU, EMBASE, IPA, MEDLINE, NIOSHTIC, PROMT, TOXCENTER, USPATFULL, VETU
(*File contains numerically searchable property data)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1016 REFERENCES IN FILE CA (1967 TO DATE)

21 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

1018 REFERENCES IN FILE CAPLUS (1967 TO DATE)

16 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:114515

REFERENCE 2: 137:74540

REFERENCE 3: 137:57568
REFERENCE 4: 137:41508
REFERENCE 5: 136:345818
REFERENCE 6: 136:278642
REFERENCE 7: 136:262429
REFERENCE 8: 136:216022
REFERENCE 9: 136:216020
REFERENCE 10: 136:164421

L68 ANSWER 15 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 107-43-7 REGISTRY

CN Methanaminium, 1-carboxy-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Ammonium compounds, substituted, (carboxymethyl)trimethyl-, hydroxide, inner salt (7CI)

CN Betaine (8CI)

CN Methanaminium, 1-carboxy-N,N,N-trimethyl-, hydroxide, inner salt

OTHER NAMES:

CN (Carboxymethyl)trimethylammonium hydroxide inner salt

CN (Trimethylammonio)acetate

CN .alpha.-Earleine

CN Abromine

CN Aminocoat

CN Aquadew AN 100

CN Betafin

CN Betafin BCR

CN Betafin BP

CN Cystadane

CN FinnStim

CN Glycine betaine

CN Glycine, trimethylbetaine

CN Glycocoll betaine

CN Glycylbetaine

CN Greenstim

CN Loramine AMB 13

CN Lycine

CN N,N,N-Trimethylglycine

CN Oxyneurine

CN Rubrine C

CN Trimethylglycine

CN Trimethylglycocoll

FS 3D CONCORD

DR 11042-12-9, 590-30-7, 24980-93-6, 45631-77-4

MF C5 H11 N O2

CI COM

LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIOGENES, DRUGU, EMBASE, GMELIN*, HODOC*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, PHAR, PIRA, PROMT, RTECS*, SPECINFO, TOXCENTER, TULSA, USAN, USPAT2, USPATFULL, VETU
(*File contains numerically searchable property data)

Other Sources: DSL**, EINECS**, TSCA**

(**Enter CHEMLIST File for up-to-date regulatory information)

$\text{Me}_3^+\text{N}-\text{CH}_2-\text{CO}_2^-$

3417 REFERENCES IN FILE CA (1967 TO DATE)
538 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
3422 REFERENCES IN FILE CAPLUS (1967 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:129563
REFERENCE 2: 137:124481
REFERENCE 3: 137:124272
REFERENCE 4: 137:121061
REFERENCE 5: 137:119269
REFERENCE 6: 137:114511
REFERENCE 7: 137:114201
REFERENCE 8: 137:108448
REFERENCE 9: 137:106179
REFERENCE 10: 137:105978

L68 ANSWER 16 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 59-30-3 REGISTRY

CN L-Glutamic acid, N-[4-[(2-amino-1,4-dihydro-4-oxo-6-pteridinyl)methyl]amino]benzoyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Folic acid (8CI)

OTHER NAMES:

CN Acifolic

CN Cytofol

CN Dosfolat B activ

CN Folacid

CN Folacin

CN Folbal

CN Folcidin

CN Folettes

CN Foliamin

CN Folipac

CN Folsan

CN Folsaure

CN Folsav

CN Folvite

CN Incafolic

CN Liver Lactobacillus casei factor

CN Millafol

CN NSC 3073

CN PGA

CN Pteroyl-L-glutamic acid

CN Pteroyl-L-monoglutamic acid

CN Pteroylglutamic acid

CN Pteroylmonoglutamic acid

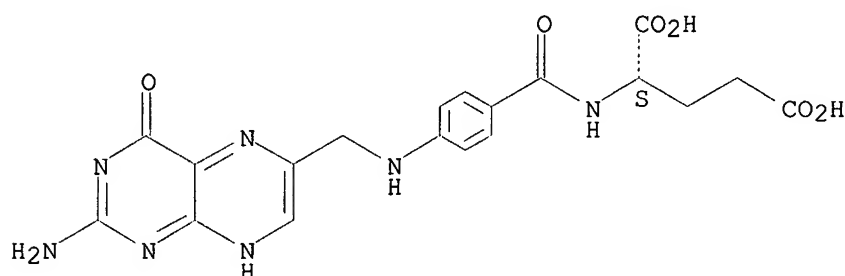
CN Vitamin Bc

CN Vitamin Be

CN Vitamin M

FS STEREOSEARCH
DR 33609-88-0
MF C19 H19 N7 O6
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DIOGENES, DRUGU, EMBASE, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PHARMASEARCH, PIRA, PROMT, RTECS*, SPECINFO, TOXCENTER, USAN, USPAT2, USPATFULL, VETU
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**, WHO
(**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

9027 REFERENCES IN FILE CA (1967 TO DATE)
840 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
9035 REFERENCES IN FILE CAPLUS (1967 TO DATE)
9 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:129914
REFERENCE 2: 137:129885
REFERENCE 3: 137:129881
REFERENCE 4: 137:125539
REFERENCE 5: 137:125178
REFERENCE 6: 137:124541
REFERENCE 7: 137:123534
REFERENCE 8: 137:123313
REFERENCE 9: 137:123296
REFERENCE 10: 137:122570

L68 ANSWER 17 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 58-05-9 REGISTRY

CN L-Glutamic acid, N-[4-[(2-amino-5-formyl-1,4,5,6,7,8-hexahydro-4-oxo-6-pteridiny)methyl]amino]benzoyl]- (9CI) (CA INDEX NAME)

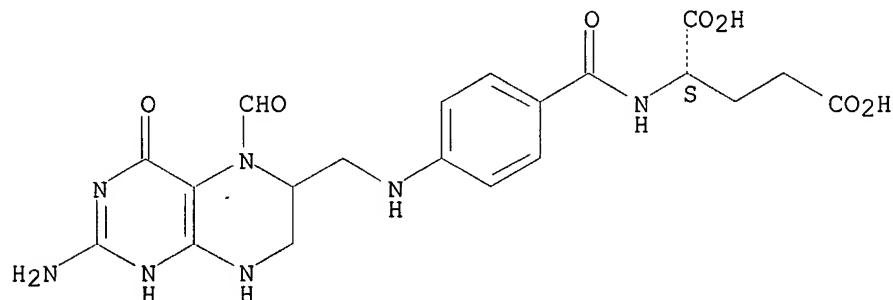
OTHER CA INDEX NAMES:

CN Glutamic acid, N-[p-[[2-amino-5-formyl-5,6,7,8-tetrahydro-4-hydroxy-6-pteridiny)methyl]amino]benzoyl]-, L- (8CI)

OTHER NAMES:

CN 10-Formyl-7,8-dihydrofolic acid
 CN 5-Formyl-5,6,7,8-tetrahydrofolic acid
 CN 5-Formyltetrahydrofolic acid
 CN 5-Formyltetrahydropteroylglutamic acid
 CN Folinic acid
 CN Folinic acid-SF
 CN l-Leucovorin
 CN Leucal
 CN Leucovorin
 CN Leucovorin
 CN Levoleucovorin
 CN N5-Formyl-5,6,7,8-tetrahydrofolic acid
 CN N5-Formyltetrahydrofolic acid
 CN Welcovorin
 FS STEREOSEARCH
 DR 641-41-8, 121521-95-7, 17435-36-8, 3102-53-2, 33299-78-4, 34786-59-9,
 40244-99-3
 MF C20 H23 N7 O7
 CI COM
 LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS,
 BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS,
 CHEMLIST, CIN, CSCHEM, DDFU, DIOGENES, DRUGU, EMBASE, HODOC*, HSDB*,
 IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PHARMASEARCH, PROMT,
 TOXCENTER, USAN, USPATFUL, VETU
 (*File contains numerically searchable property data)
 Other Sources: EINECS**
 (**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1744 REFERENCES IN FILE CA (1967 TO DATE)
 38 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 1744 REFERENCES IN FILE CAPLUS (1967 TO DATE)
 10 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:119643
 REFERENCE 2: 137:119250
 REFERENCE 3: 137:119139
 REFERENCE 4: 137:114515
 REFERENCE 5: 137:103549
 REFERENCE 6: 137:103542

REFERENCE 7: 137:98838

REFERENCE 8: 137:90156

REFERENCE 9: 137:88442

REFERENCE 10: 137:88084

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L24 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2002 ACS

RN 150566-31-7 REGISTRY

CN L-Glutamic acid, N-[4-[(2-amino-1,4-dihydro-4-oxo-6-pteridinyl)methyl]amino]benzoyl]-, mixt. with 3-[(4-amino-2-methyl-5-pyrimidinyl)methyl]-5-(2-hydroxyethyl)-4-methylthiazolium chloride and salt with cobinamide dihydrogen phosphate (ester), inner salt, 3'-ester with (5,6-dimethyl-1-.alpha.-D-ribofuranosyl-1H-benzimidazole-.kappa.N3) (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Cobinamide, ion(1+), dihydrogen phosphate (ester), inner salt, 3'-ester with (5,6-dimethyl-1-.alpha.-D-ribofuranosyl-1H-benzimidazole-.kappa.N3), mixt. contg. (9CI)

CN Thiazolium, 3-[(4-amino-2-methyl-5-pyrimidinyl)methyl]-5-(2-hydroxyethyl)-4-methyl- chloride, mixt. contg. (9CI)

FS STEREOSEARCH

MF C62 H88 Co N13 O14 P . C19 H19 N7 O6 . C12 H17 N4 O S . Cl

CI MXS

SR CA

LC STN Files: CA, CAPLUS, TOXCENTER

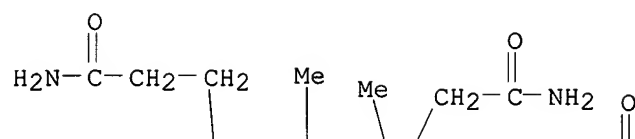
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CRN 13408-78-1

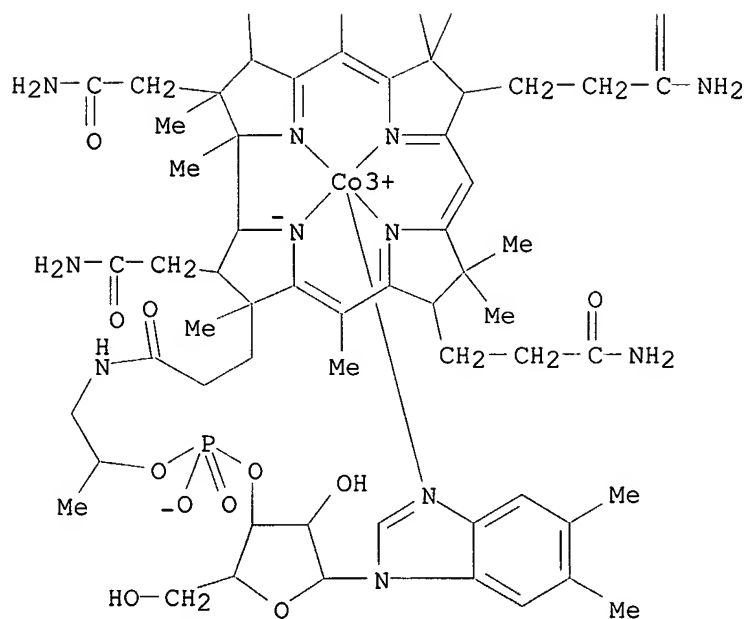
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CCI CCS

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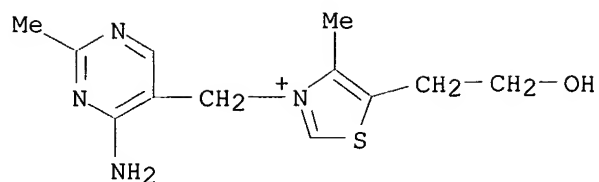


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CM 2

CRN 59-43-8 (70-16-6)
CMF C12 H17 N4 O S . Cl



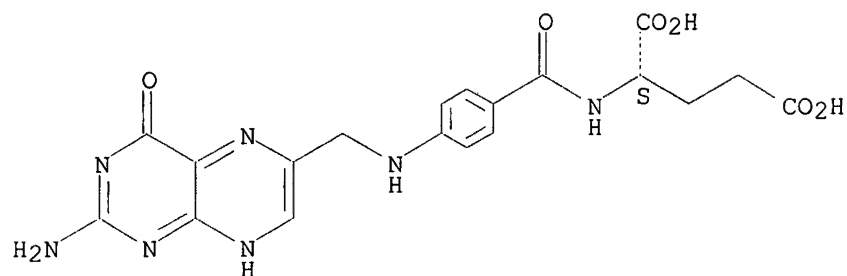
● Cl⁻

CM 3

CRN 59-30-3

CMF C19 H19 N7 O6

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 119:197662

=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 10:18:05 ON 25 AUG 2002

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FILE COVERS 1907 - 25 Aug 2002 VOL 137 ISS 9

FILE LAST UPDATED: 23 Aug 2002 (20020823/ED)

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=> d all hitstr 126

L26 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2002 ACS

AN 1993:597662 HCAPLUS

DN 119:197662

TI mixts. of folic acid, thiamin and cobalamin derivs. as drugs for the prevention and treatment of neurological and psychiatric damages from alcoholism.

IN Loew, Dieter; Haller, Claus-Peter; Woerwag, Fritz

PA Woerwag Pharma GmbH, Germany

SO Ger. Offen., 5 pp.

CODEN: GWXXBX

DT Patent

LA German

IC ICM A61K031-51

ICS A61K031-505

CC 4-7 (Toxicology)

Section cross-reference(s): 63

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4206422	A1	19930902	DE 1992-4206422	19920229
	DE 4206422	C2	19960711		
	EP 558960	A1	19930908	EP 1993-102029	19930210
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	HU 64230	A2	19931228	HU 1993-534	19930226
	HU 213095	B	19970228		
	PL 171450	B1	19970430	PL 1993-297880	19930226
PRAI	DE 1992-4206422		19920229		
AB	The title compn. comprises folic acid or its derivs., such a tetrahydrofolic acid or folinic acid, thiamin derivs., such as benfotiamine or acetiamine-HCl, and cobalamins, such as cyanocobalamin. Capsules contained folic acid 10.0, cyanocobalamin 0.3, and benfotiamine 50,0 mg/capsule.				
ST	alcoholism drug folate thiamin cobalamin; pharmaceutical alcoholism folate thiamin cobalamin; neurol psychiatric damage alcoholism treatment				
IT	64-17-5, Ethanol, biological studies				
	RL: BIOL (Biological study)				
	(dependence on, neurol. and psychiatric damage in, treatment of, mixts. of folic acid, thiamin and cobalamin derivs. for)				
IT	58-05-9D, Folinic acid, mixts. with cobalamin and thiamin derivs.				
	59-30-3D, Folic acid, mixts. with cobalamin and thiamin derivs.				
	59-43-8D, Vitamin B1, mixts. with cobalamin and folic acid derivs.				
	67-03-8D, Thiamin hydrochloride, mixts. with cobalamin and folic acid derivs.				
	67-16-3D, Thiamine disulfide, mixts. with cobalamin and folic acid derivs.				
	68-19-9D, Cyanocobalamin, mixts. with folic acid and thiamin derivs.				
	135-16-0D, Tetrahydrofolic acid, mixts. with cobalamin and thiamin derivs.				
	137-86-0D, mixts. with cobalamin and folic acid derivs.				
	154-87-0D, Thiamin pyrophosphate, mixts. with cobalamin and folic acid derivs.				
	532-40-1D, mixts. with cobalamin and folic acid derivs.				
	532-43-4D, mixts. with cobalamin and folic acid derivs.				
	635-97-2D, mixts. with cobalamin and folic acid derivs.				
	804-30-8D, Fursultiamin, mixts. with cobalamin and folic acid derivs.				
	2667-89-2D, mixts. with cobalamin and folic acid derivs.				
	10238-39-8D, mixts. with cobalamin and folic acid derivs.				
	13422-51-0D, Hydroxycobalamin, mixts. with folic acid and thiamin derivs.				
	13422-55-4D, Methylcobalamin, mixts. with folic acid and thiamin derivs.				
	13457-21-1D, mixts. with cobalamin and folic acid derivs.				
	13870-90-1D, mixts. with folic acid and thiamin derivs.				
	14191-96-9D, mixts. with cobalamin and folic acid derivs.				

22457-89-2D, Benfotiamine, mixts. with cobalamin and folic acid derivs.
 85187-36-6D, mixts. with cobalamin and folic acid derivs.

150566-31-7

RL: BIOL (Biological study)

(neurol. and psychiatric damage treatment by, in alcoholism)

IT **150566-31-7**

RL: BIOL (Biological study)

(neurol. and psychiatric damage treatment by, in alcoholism)

RN 150566-31-7 HCAPLUS

CN L-Glutamic acid, N-[4-[[[(2-amino-1,4-dihydro-4-oxo-6-pteridiny]methyl]amino]benzoyl]-, mixt. with 3-[(4-amino-2-methyl-5-pyrimidinyl)methyl]-5-(2-hydroxyethyl)-4-methylthiazolium chloride and salt with cobinamide dihydrogen phosphate (ester), inner salt, 3'-ester with (5,6-dimethyl-1-.alpha.-D-ribofuranosyl-1H-benzimidazole-.kappa.N3) (9CI) (CA INDEX NAME)

CM 1

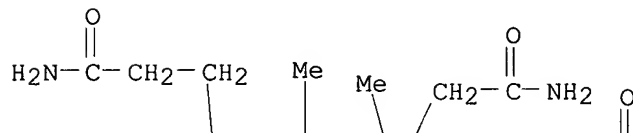
CRN 13408-78-1

CMF C62 H88 Co N13 O14 P

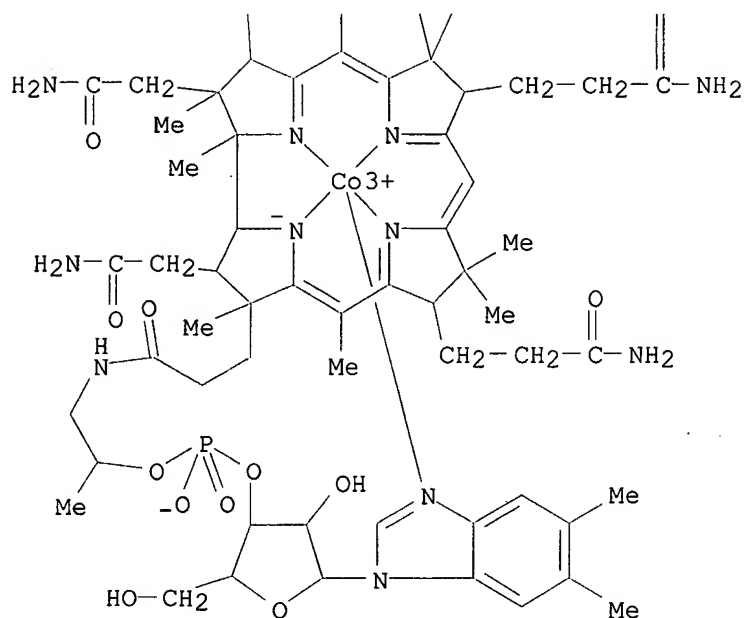
CCI CCS

CDES 6:COBIN-F(A-D-RIBO)

PAGE 1-A



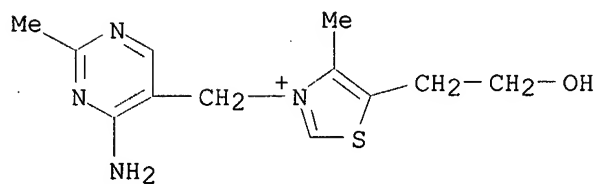
PAGE 2-A



CM 2

CRN 59-43-8

CMF C12 H17 N4 O S . Cl

● Cl⁻

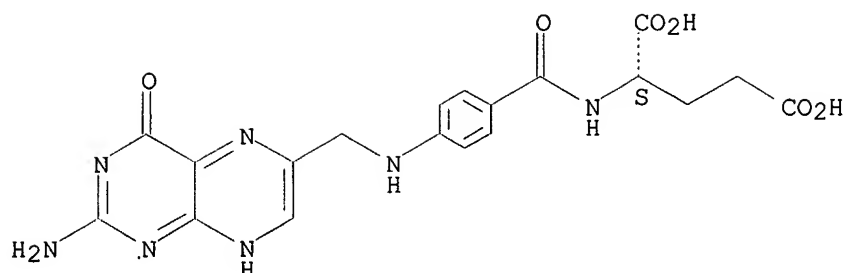
CM 3

CRN 59-30-3

CMF C19 H19 N7 O6

CDES 5:L

Absolute stereochemistry.



=> fil wpix

FILE 'WPIX' ENTERED AT 10:37:42 ON 25 AUG 2002
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FILE LAST UPDATED: 23 AUG 2002 <20020823/UP>
MOST RECENT DERWENT UPDATE 200254 <200254/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> SLART (Simultaneous Left and Right Truncation) is now
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>>> FOR INFORMATION ON ALL DERWENT WORLD PATENTS INDEX USER
GUIDES, PLEASE VISIT:
http://www.derwent.com/userguides/dwpi_guide.html <<<

=> d all abeq tech abex tot

L90 ANSWER 1 OF 2 WPIX (C) 2002 THOMSON DERWENT

AN 2001-112363 [12] WPIX

DNC C2001-033401

TI Prophylactic dietary supplement for reducing incidence of cardio, cerebro
vascular diseases and diabetes in a population, contains milk or its
products fortified with **betaine**, **cobalamin**,
folic acid or pyridoxine.

DC B05 D13

IN ELLIOTT, R B; LAUGESSEN, B M

PA (NZMI-N) NEW ZEALAND MILK INST LTD

CYC 94

PI WO 2001000047 A1 20010104 (200112)* EN 32p A23L001-305

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ
NL PT SD SE SL SZ TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM
DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC
LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE
SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000057192 A 20010131 (200124) A23L001-305
 EP 1196047 A1 20020417 (200233) EN A23L001-305
 R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
 RO SE SI

ADT WO 2001000047 A1 WO 2000-NZ116 20000629; AU 2000057192 A AU 2000-57192
 20000629; EP 1196047 A1 EP 2000-942589 20000629, WO 2000-NZ116 20000629
 FDT AU 2000057192 A Based on WO 200100047; EP 1196047 A1 Based on WO 200100047
 PRAI NZ 2000-504057 20000418; NZ 1999-336505 19990629
 IC ICM A23L001-305
 AB WO 200100047 A UPAB: 20010302

NOVELTY - A dietary supplement (I) comprises a milk or milk product, fortified by addition of **betaine**, **cobalamin**, **folic acid**, pyridoxine or their analogs and when consumed it is capable of reducing plasma levels of homocyst(e)ine (tHcy), thereby capable of reducing the incidence of vascular disease (VaD), particularly cardiovascular disease and cerebrovascular disease, in a mammalian population.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for the use in the manufacture of a dietary supplement, of an effective amount of **betaine**, **cobalamin**, **folic acid**, pyridoxine or their analogs with a fraction derived from milk, when consumed being capable of reducing tHcy and VaD in a population.

ACTIVITY - Cardiant; antidiabetic.

MECHANISM OF ACTION - None given.

USE - (I) is useful for reducing the incidence of neural tube defects, peripheral vascular diseases, cardiovascular and cerebrovascular disease, diabetes type I and II or degeneration of blood vessel walls in a mammalian population (claimed).

ADVANTAGE - (I) provides sufficient daily **folate** to avoid neural tube defects and improves health of human population without actual medication.

Dwg.0/2

FS CPI

FA AB; DCN

MC CPI: B03-D; B03-E; B04-B04K; B04-N02; B06-D09; B10-A22; B14-F01; B14-F02; D03-H01T2

TECH UPTX: 20010302

TECHNOLOGY FOCUS - FOOD - Preferred Composition: The concentration of **folic acid**, **cobalamin**, pyridoxine and **betaine** are such that an effective amount (for an adult human) of 300-500 mug, 4-7 mug, 1.5-4 mg and 100 mg-1 g, respectively intake per day is made available by consumption of the dietary supplement. The milk of the dietary supplement further has a bovine origin and a controlled beta-casein content comprising of A2 variant, excluding the A1 and B variants. A residue of digestion product of the A2 beta-casein, a relatively stable peptide known as beta-casomorphin 9 is capable of promoting an immune response within the body. The relatively stable active peptide beta-casomorphin 9 or its analog is included within a slow-release formulation in the supplement so as to be capable, on ingestion by an individual, of being released into the gut over a period of time, promoting immunity against diabetes. The active compound is assisted by the inclusion of an agent capable of enhancing a development of immunity within the dietary supplement.

ABEX

WIDER DISCLOSURE - Also disclosed are:

(1) a dairy product having undergone purification during the manufacturing procedure to eliminate beta-casein A1, B and even all casein; and
 (2) preparing a fortified milk product.

EXAMPLE - A dietary supplement comprising milk fortified with beta-casein comprised of A2 variant was prepared and the effect of the supplement was studied using biobreeding rats. The control diet was Prosobee which is a soy preparation used as rat food. The spontaneous incidence of diabetes in the control population was 38 %. Rats fed Prosobee plus 10 % mixed casein

(A1 and A2) had an incidence of 27 %. Rats fed on Prosobee plus 10 % type A1 casein had an incidence of 45 % and rats fed on Prosobee plus 10 % type A2 casein had an incidence of 20 %. The incidence of diabetes in the A1 group was higher than that of the control group. The incidence of diabetes in the A2 group was significantly reduced and was the lowest of any group. These results indicated that beta-casomorphin 9, a digestion product of A2 beta-casein exerted a beneficial effect on the incidence of Type I diabetes, as an immunomodulator.

L90 ANSWER 2 OF 2 WPIX (C) 2002 THOMSON DERWENT

AN 1998-286587 [25] WPIX

DNC C1998-088733

TI Treating Alzheimer's disease or inhibiting micro-vascular events - by administering drug e.g. **folic acid** to reduce homo-cysteine levels.

DC B02 B04

IN JOBST, K A; SMITH, A D

PA (BRIM) BRISTOL-MYERS SQUIBB CO

CYC 74

PI WO 9819690 A1 19980514 (199825)* EN 47p A61K038-00

RW: AT BE CH DE DK EA ES FI FR GB GH GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW

W: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN

AU 9852442 A 19980529 (199841) A61K038-00

EP 951293 A1 19991027 (199950) EN A61K038-00

R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

US 6008221 A 19991228 (200007) A61K031-495

AU 719290 B 20000504 (200030) A61K038-00

US 6127370 A 20001003 (200050) A61K031-505

JP 2001504104 W 20010327 (200122) 45p A61K045-00

ADT WO 9819690 A1 WO 1997-US20021 19971104; AU 9852442 A AU 1998-52442 19971104; EP 951293 A1 EP 1997-947335 19971104; WO 1997-US20021 19971104; US 6008221 A Provisional US 1996-30642P 19961106, US 1997-959035 19971028; AU 719290 B AU 1998-52442 19971104; US 6127370 A Provisional US 1996-30642P 19961106, Div ex US 1997-959035 19971028, US 1999-435804 19991108; JP 2001504104 W WO 1997-US20021 19971104, JP 1998-521674 19971104

FDT AU 9852442 A Based on WO 9819690; EP 951293 A1 Based on WO 9819690; AU 719290 B Previous Publ. AU 9852442, Based on WO 9819690; US 6127370 A Div ex US 6008221; JP 2001504104 W Based on WO 9819690

PRAI US 1996-30642P 19961106; US 1997-959035 19971028; US 1999-435804 19991108

IC ICM A61K031-495; A61K031-505; A61K038-00; A61K045-00

ICS A01N033-10; A61K031-04; A61K031-40; A61K031-41; A61K031-4415; A61K031-50; A61K031-519; A61K031-55; A61K031-58; A61K031-71; A61K031-714; A61K038-04; A61K038-06; A61P009-00; A61P025-28

AB WO 9819690 A UPAB: 19980624

Treating occlusive vascular disease and Alzheimer's disease, or inhibiting microvascular events leading to ischaemia and/or neurodegeneration, comprises administration of a drug which causes a reduction in moderately elevated blood levels of homocysteine (HCy) and modifies the toxic effects of HCy on the vasculature or on nerve cells in the brain. Also claimed is a composition comprising folic acid, a folate or its derivatives and vitamin B12.

Preferably, the patient has at least moderately increased blood levels of homocysteine and at least moderately reduced blood levels of folate and vitamin B12. The drug is folic acid, a folate or its derivatives, betaine and/or vitamin B12. Preferably the drug is folic acid (pteroyl-monoglutamate), at least 1 folyl-polyglutamate, a compound in which the pyrazine ring of the pterin

group of **folic acid** or of the folylpolyglutamate is reduced to give **dihydrofolates** or **tetrahydrofolates** and/or derivatives of all the compounds in which the N-5 or N-10 positions carry 1C units, optionally oxidised. The drug is especially **folic acid**, **dihydrofolate**, **tetrahydrofolate**, **5-methyltetrahydrofolate**, **5,10-methylenetetrahydrofolate**, **5,10-methenyltetrahydrofolate**, **5,10-foriminotetrahydrofolate**, **5-formyltetrahydrofolate** and/or **10-formyltetrahydrofolate**.

USE - The process is used for treating occlusive cerebral or peripheral disease, transient ischaemic attacks, intermittent claudication, vascular dementia, multi-infarct dementia, senile onset dementia, presenile dementia and Binswanger's disease. Administration includes oral and injectable formulations. The doses of **folic acid**, **folate**, or its derivatives, **betaine**, or **vitamin B6** are 0.1-100 (preferably 2-10) mg/day orally or 0.002-10 (preferably 0.01-3) mg/day parenterally. The dosage of **vitamin B12** is 0.001-10 (preferably 0.5-2.5) mg/day orally or 0.002-5 (preferably 0.01-3) mg/kg parenterally.

Dwg.0/2

FS CPI

FA AB; DCN

MC CPI: B03-D; B03-E; B06-D09; B07-D03; B10-A05; B10-A22; B14-J01A4

=> fil medline

FILE 'MEDLINE' ENTERED AT 10:50:17 ON 25 AUG 2002

FILE LAST UPDATED: 24 AUG 2002 (20020824/UP). FILE COVERS 1958 TO DATE.

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MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2002 vocabulary. Enter HELP THESAURUS for details.

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=> d all tot

L120 ANSWER 1 OF 6 MEDLINE

AN 87276486 MEDLINE

DN 87276486 PubMed ID: 3497055

TI [Mechanism of the protective action of cobamamide and leucovorin on hematopoiesis in acute blood loss].

K mekhanizmu protektivnogo deistviia kobamamida i leikovorina na krovetvorenii pri ostroi krovopotere.

AU Mikhailov V V; Gerina L S; Neustroev G V; Avakumov V M

SO FARMAKOLOGIIA I TOKSIKOLOGIIA, (1987 May-Jun) 50 (3) 92-4.

Journal code: 16920420R. ISSN: 0014-8318.

CY USSR

DT Journal; Article; (JOURNAL ARTICLE)

LA Russian

FS Priority Journals

EM 198709

ED Entered STN: 19900305

Last Updated on STN: 19900305

Entered Medline: 19870916

AB Leucovorin and cobamamide administered alone and in combination potentiate the proliferative activity of the erythroid and myeloid cells of the bone marrow. There is lack in mutual potentiation of the drugs.

CT Check Tags: Animal; Comparative Study
Bone Marrow: DE, drug effects

Bone Marrow Cells
Cell Division: DE, drug effects
*Cobamides: TU, therapeutic use
Drug Evaluation, Preclinical
Drug Therapy, Combination
English Abstract
*Hematopoiesis: DE, drug effects
Hemorrhage: BL, blood
*Hemorrhage: DT, drug therapy
*Leucovorin: TU, therapeutic use
Rats
Rats, Inbred Strains
Stimulation, Chemical

RN 13870-90-1 (cobamamide); 58-05-9 (Leucovorin)
CN 0 (Cobamides)

L120 ANSWER 2 OF 6 MEDLINE

AN 82196660 MEDLINE

DN 82196660 PubMed ID: 6979030

TI Treatment of fragile-X.

AU Harpey J P

SO PEDIATRICS, (1982 May) 69 (5) 670.

Journal code: 0376422. ISSN: 0031-4005.

CY United States

DT Letter

LA English

FS Abridged Index Medicus Journals; Priority Journals

EM 198207

ED Entered STN: 19900317

Last Updated on STN: 19990129

Entered Medline: 19820722

CT Check Tags: Case Report; Female; Human; Male

Adolescence

Adult

*Chromosome Fragility

Folic Acid: TU, therapeutic use

Leucovorin: TU, therapeutic use

*Mental Retardation: DT, drug therapy

Mental Retardation: GE, genetics

*Sex Chromosome Aberrations

Vitamin B 12: TU, therapeutic use

RN 58-05-9 (Leucovorin); 59-30-3 (Folic Acid);
68-19-9 (Vitamin B 12)

L120 ANSWER 3 OF 6 MEDLINE

AN 82192358 MEDLINE

DN 82192358 PubMed ID: 6978943

TI Tetrahydrofolate and hydroxocobolamin in the management of
dihydropteridine reductase deficiency.

AU Leeming R J; Harpey J P; Brown S M; Blair J A

SO JOURNAL OF MENTAL DEFICIENCY RESEARCH, (1982 Mar) 26 (Pt 1) 21-5.

Journal code: 0375401. ISSN: 0022-264X.

CY ENGLAND: United Kingdom

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 198207

ED Entered STN: 19900317

Last Updated on STN: 19900317

Entered Medline: 19820719

CT Check Tags: Animal; Case Report; Human; In Vitro; Male; Support, Non-U.S.
Gov't

Ascorbic Acid: TU, therapeutic use

Biopterin: BI, biosynthesis
 Child, Preschool
 *Dihydropteridine Reductase: DF, deficiency
 Hydroxocobalamin: PD, pharmacology
 *Hydroxocobalamin: TU, therapeutic use
 Infant
 Leucovorin: TU, therapeutic use
 *NADH, NADPH Oxidoreductases: DF, deficiency
 Rats
 Tetrahydrofolates: PD, pharmacology
 *Tetrahydrofolates: TU, therapeutic use
 RN 134-35-0 (5-methyltetrahydrofolate); 13422-51-0
 (Hydroxocobalamin); 22150-76-1 (Biopterin); 50-81-7 (Ascorbic Acid);
 58-05-9 (Leucovorin)
 CN 0 (Tetrahydrofolates); EC 1.6. (NADH, NADPH Oxidoreductases); EC
 1.6.99.7 (Dihydropteridine Reductase)

L120 ANSWER 4 OF 6 MEDLINE
 AN 80227072 MEDLINE
 DN 80227072 PubMed ID: 6248475
 TI Vitamins and alcoholism. II. folate and vitamin
 B12.
 AU Bonjour J P
 SO INTERNATIONAL JOURNAL FOR VITAMIN AND NUTRITION RESEARCH, (1980) 50 (1)
 96-121. Ref: 107
 Journal code: 1273304. ISSN: 0300-9831.
 CY Switzerland
 DT Journal; Article; (JOURNAL ARTICLE)
 General Review; (REVIEW)
 LA English
 FS Priority Journals
 EM 198009
 ED Entered STN: 19900315
 Last Updated on STN: 19970203
 Entered Medline: 19800923
 CT Check Tags: Animal; Human
 Alcoholism: CO, complications
 *Alcoholism: ME, metabolism
 Beer
 Bone Marrow Cells
 Erythropoiesis
 *folic Acid: ME, metabolism
 Folic Acid: TU, therapeutic use
 Folic Acid Deficiency
 Formiminoglutamic Acid: ME, metabolism
 Intestinal Absorption
 Liver Diseases, Alcoholic: ME, metabolism
 Nutrition Disorders: CO, complications
 Peripheral Nervous System Diseases: ME, metabolism
 Psychoses, Alcoholic: ME, metabolism
 Tetrahydrofolates: ME, metabolism
 Thrombocytopenia: ME, metabolism
 *Vitamin B 12: ME, metabolism
 Vitamin B 12: TU, therapeutic use
 Vitamin B 12 Deficiency
 Wine
 RN 59-30-3 (Folic Acid); 68-19-9 (Vitamin B 12); 816-90-0
 (Formiminoglutamic Acid)
 CN 0 (Tetrahydrofolates)

L120 ANSWER 5 OF 6 MEDLINE
 AN 76018646 MEDLINE
 DN 76018646 PubMed ID: 1080667

TI [Identification and determination of folinic acid and **cobalamin**
in combination].
Identificazione e determinazione di acido folinico e **cobalamine**
in associazione.

AU Lotti B

SO BOLLETTINO CHIMICO FARMACEUTICO, (1975 Jul) 114 (7) 416-20.
Journal code: 0372534. ISSN: 0006-6648.

CY Italy

DT Journal; Article; (JOURNAL ARTICLE)

LA Italian

FS Priority Journals

EM 197512

ED Entered STN: 19900313
Last Updated on STN: 19900313
Entered Medline: 19751211

CT Chemistry, Pharmaceutical
Cobamides: AN, analysis
Drug Combinations
English Abstract
Hydroxocobalamin: AN, analysis
*Leucovorin: AN, analysis
*Vitamin B 12: AN, analysis

RN 13422-51-0 (Hydroxocobalamin); 58-05-9 (Leucovorin);
68-19-9 (Vitamin B 12)

CN 0 (Cobamides); 0 (Drug Combinations)

L120 ANSWER 6 OF 6 MEDLINE

AN 72206931 MEDLINE

DN 72206931 PubMed ID: 4537527

TI [Treatment of viral hepatitis with an association of folinic acid and
hydroxycobalamin].
Trattamento dell'epatite virale con un'associazione acido folinico-
idrossicobalamina.

AU Carradori V

SO CLINICA TERAPEUTICA, (1972 Apr 30) 61 (2) 137-42.
Journal code: 0372604. ISSN: 0009-9074.

CY Italy

DT Journal; Article; (JOURNAL ARTICLE)

LA Italian

FS Priority Journals

EM 197208

ED Entered STN: 19900310
Last Updated on STN: 19900310
Entered Medline: 19720811

CT Check Tags: Female; Human; Male
Adolescence
Adult
Child
*Hepatitis A: DT, drug therapy
*Hydroxocobalamin: TU, therapeutic use
*Leucovorin: TU, therapeutic use
Liver Function Tests
Middle Age

RN 13422-51-0 (Hydroxocobalamin); 58-05-9 (Leucovorin)

=> fil biosis

FILE 'BIOSIS' ENTERED AT 10:51:47 ON 25 AUG 2002
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L124 ANSWER 1 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 2000:299804 BIOSIS
DN PREV200000299804
TI Vitamin B6 status in rheumatoid arthritis (RA) patients: Correlations
between different methods of assessment and severity of disease symptoms.
AU Chiang, E.-P. (1); Roubenoff, R. (1); Selhub, J. (1);
Bagley, P. (1)
CS (1) USDA HNRCA at Tufts U, Boston, MA USA
SO FASEB Journal, (March 15, 2000) Vol. 14, No. 4, pp. A203. print.
Meeting Info.: Annual Meeting of Professional Research Scientists:
Experimental Biology 2000 San Diego, California, USA April 15-18, 2000
Federation of American Societies for Experimental Biology
. ISSN: 0892-6638.
DT Conference
LA English
SL English
CC Biochemical Studies - Vitamins *10063
Biochemical Studies - Proteins, Peptides and Amino Acids *10064
Enzymes - General and Comparative Studies; Coenzymes *10802
Nutrition - Malnutrition; Obesity *13203
Immunology and Immunochemistry - Immunopathology, Tissue Immunology
*34508
Bones, Joints, Fasciae, Connective and Adipose Tissue - Pathology *18006
Nutrition - General Studies, Nutritional Status and Methods *13202
General Biology - Symposia, Transactions and Proceedings of Conferences,
Congresses, Review Annuals *00520
BC Hominidae 86215
IT Major Concepts
Rheumatology (Human Medicine, Medical Sciences); Nutrition
IT Diseases
rheumatoid arthritis: connective tissue disease, immune system disease,
joint disease; vitamin B-6 deficiency: nutritional disease
IT Chemicals & Biochemicals
aspartate aminotransferase: erythrocyte; homocysteine: plasma;
pyridoxal 5' phosphate: plasma; vitamin B-6
IT Alternate Indexing
Arthritis, Rheumatoid (MeSH)
IT Miscellaneous Descriptors
erythrocyte sedimentation rate; Meeting Abstract
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
human (Hominidae): patient
ORGN Organism Superterms
Animals; Chordates; Humans; Mammals; Primates; Vertebrates
RN 9000-97-9 (ASPARTATE AMINOTRANSFERASE)
454-29-5Q (HOMOCYSTEINE)
6027-13-0Q (HOMOCYSTEINE)
54-47-7 (PYRIDOXAL 5' PHOSPHATE)
8059-24-3 (VITAMIN B-6)

L124 ANSWER 2 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1999:531194 BIOSIS
DN PREV199900531194
TI The effect of menopausal status and exogenous estrogen on homocysteine in
systemic lupus erythematosus.
AU Petri, M.; Buyon, J.; Magder, L.; Roubenoff, R.; Selhub,

J.; Alarcon, G.; Belmont, M.; Dooley, M. A.; Grossman, J.; Hahn, B.; Hearth-Holmes, M.; Kalunian, K.; Kim, M.; Lockshin, M.; Manzi, S.; McCune, J.; Merrill, J.; Sammaritano, L.; Von Feldt, J.; Wachs, J.

SO Arthritis & Rheumatism, (Sept., 1999) Vol. 42, No. 9 SUPPL., pp. S148.
Meeting Info.: 63rd Annual Scientific Meeting of the American College of Rheumatology and the 34th Annual Scientific Meeting of the Association of Rheumatology Health Professionals Boston, Massachusetts, USA November 13-17, 1999
ISSN: 0004-3591.

DT Conference

LA English

CC Cardiovascular System - General; Methods *14501
Biochemical Studies - General *10060
Bones, Joints, Fasciae, Connective and Adipose Tissue - General; Methods *18001
Immunology and Immunochemistry - General; Methods *34502
Pharmacology - General *22002
General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals *00520

BC Hominidae 86215

IT Major Concepts
Cardiovascular Medicine (Human Medicine, Medical Sciences);
Rheumatology (Human Medicine, Medical Sciences)

IT Diseases
arterial thrombosis: vascular disease; stroke: nervous system disease, vascular disease; systemic lupus erythematosus: connective tissue disease, immune system disease

IT Chemicals & Biochemicals
estrogen: hormone - drug; homocysteine

IT Alternate Indexing
Cerebrovascular Disorders (MeSH); Lupus Erythematosus, Systemic (MeSH); Thrombosis (MeSH)

IT Methods & Equipment
hormone replacement therapy: therapeutic method

IT Miscellaneous Descriptors
menopause; risk factors; Meeting Abstract; Meeting Poster

ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia

ORGN Organism Name
human (Hominidae): female, patient

ORGN Organism Superterms
Animals; Chordates; Humans; Mammals; Primates; Vertebrates

RN 454-29-5Q (HOMOCYSTEINE)
6027-13-0Q (HOMOCYSTEINE)

L124 ANSWER 3 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AN 1999:282579 BIOSIS

DN PREV199900282579

TI Evidence for impaired vitamin B6 status in patients with rheumatoid arthritis.

AU Chiang, E.-P. (1); Roubenoff, R. (1); Selhub, J. (1); Bagley, P. J. (1)

CS (1) JM USDA Human Nutrition Research Center on Aging at Tufts University, Boston, MA, 02111 USA

SO FASEB Journal, (March 15, 1999) Vol. 13, No. 5 PART 2, pp. A889.
Meeting Info.: Annual Meeting of the Professional Research Scientists on Experimental Biology 99 Washington, D.C., USA April 17-21, 1999 Federation of American Societies for Experimental Biology
. ISSN: 0892-6638.

DT Conference

LA English

CC Nutrition - General Studies, Nutritional Status and Methods *13202
Clinical Biochemistry; General Methods and Applications *10006

Biochemical Studies - General *10060
 Physiology, General and Miscellaneous - General *12002
 Blood, Blood-Forming Organs and Body Fluids - General; Methods *15001
 Immunology and Immunochemistry - Immunopathology, Tissue Immunology
 *34508
 Bones, Joints, Fasciae, Connective and Adipose Tissue - Pathology *18006
 Pathology, General and Miscellaneous - Inflammation and Inflammatory
 Disease *12508
 Pathology, General and Miscellaneous - General *12502
 General Biology - Symposia, Transactions and Proceedings of Conferences,
 Congresses, Review Annuals *00520
 BC Hominidae 86215
 IT Major Concepts
 Nutrition; Skeletal System (Movement and Support)
 IT Parts, Structures, & Systems of Organisms
 blood plasma: blood and lymphatics, chemical analysis
 IT Diseases
 rheumatoid arthritis: connective tissue disease, immune system disease,
 joint disease
 IT Chemicals & Biochemicals
 amino acids; vitamin B6; vitamins; water-soluble vitamins
 IT Alternate Indexing
 Arthritis, Rheumatoid (MeSH)
 IT Miscellaneous Descriptors
 impaired vitamin B6; Meeting Abstract
 ORGN Super Taxa
 Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
 ORGN Organism Name
 human (Hominidae): patient
 ORGN Organism Superterms
 Animals; Chordates; Humans; Mammals; Primates; Vertebrates
 RN 8059-24-3 (VITAMIN B6)

L124 ANSWER 4 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AN 1998:469636 BIOSIS
 DN PREV199800469636
 TI Effectiveness of B-vitamin therapy in reducing plasma total homocysteine
 in patients with systemic lupus erythematosus (SLE.
 AU Petri, M.; Vu, D.; Omura, A.; Yuen, J.; Selhub, J.; Rosenberg,
 I.; Roubenoff, R.
 CS John Hopkins Univ. Sch. Med., Baltimore, MD 21205 USA
 SO Arthritis & Rheumatism, (Sept., 1998) Vol. 41, No. 9 SUPPL., pp. S241.
 Meeting Info.: 62nd National Scientific Meeting of the American College of
 Rheumatology and the 33rd National Scientific Meeting of the Association
 of Rheumatology Health Professionals San Diego, California, USA November
 8-12, 1998 American College of Rheumatology
 . ISSN: 0004-3591.
 DT Conference
 LA English
 CC Bones, Joints, Fasciae, Connective and Adipose Tissue - General; Methods
 *18001
 Pharmacology - General *22002
 Immunology and Immunochemistry - General; Methods *34502
 General Biology - Symposia, Transactions and Proceedings of Conferences,
 Congresses, Review Annuals *00520
 BC Hominidae 86215
 IT Major Concepts
 Pharmacology; Rheumatology (Human Medicine, Medical Sciences)
 IT Diseases
 systemic lupus erythematosus: connective tissue disease, immune system
 disease
 IT Chemicals & Biochemicals
 homocysteine: plasma, total

IT Methods & Equipment
B-vitamin therapy: effectiveness, therapeutic method
IT Miscellaneous Descriptors
Meeting Abstract
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
human (Hominidae): patient
ORGN Organism Superterms
Animals; Chordates; Humans; Mammals; Primates; Vertebrates
RN 454-29-5Q (HOMOCYSTEINE)
6027-13-0Q (HOMOCYSTEINE)

L124 ANSWER 5 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1998:158734 BIOSIS
DN PREV199800158734
TI Clinical associations of homocysteine in SLE.
AU Petri, M. (1); Roubenoff, R.; Selhub, J.; Rosenberg, I.
CS (1) Johns Hopkins Univ., Baltimore, MD USA
SO Arthritis & Rheumatism, (Sept., 1997) Vol. 40, No. 9 SUPPL., pp. S333.
Meeting Info.: 61st National Scientific Meeting of the American College of Rheumatology and the 32nd National Scientific Meeting of the Association of Rheumatology Health Professionals Washington, DC, USA November 8-12, 1997 Association of Rheumatology Health Professionals
. ISSN: 0004-3591.
DT Conference
LA English
CC Cardiovascular System - General; Methods *14501
Biochemical Studies - General *10060
Metabolism - General Metabolism; Metabolic Pathways *13002
Blood, Blood-Forming Organs and Body Fluids - General; Methods *15001
Urinary System and External Secretions - General; Methods *15501
Bones, Joints, Fasciae, Connective and Adipose Tissue - General; Methods *18001
General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals *00520
BC Hominidae 86215
IT Major Concepts
Cardiovascular Medicine (Human Medicine, Medical Sciences)
IT Parts, Structures, & Systems of Organisms
kidney: excretory system
IT Diseases
arterial thrombosis: vascular disease; arteriosclerosis: vascular disease; hypertension: vascular disease; nephrotic syndrome: urologic disease; proteinuria: urologic disease; renal insufficiency: urologic disease; systemic lupus erythematosus: connective tissue disease, immune system disease; Cushingoid habitus
IT Chemicals & Biochemicals
homocysteine: metabolism, serum, vascular risk factor; prednisone
IT Miscellaneous Descriptors
Meeting Abstract
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
human (Hominidae): patient
ORGN Organism Superterms
Animals; Chordates; Humans; Mammals; Primates; Vertebrates
RN 454-29-5Q (HOMOCYSTEINE)
6027-13-0Q (HOMOCYSTEINE)
53-03-2 (PREDNISONE)

L124 ANSWER 6 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AN 1997:227054 BIOSIS
DN PREV199799518770
TI Abnormal homocysteine metabolism in rheumatoid arthritis.
AU **Roubenoff, Ronenn (1)**; Dellaripa, Paul; Nadeau, Marie R.; Abad, Leslie W.; Muldoon, Bernadette A.; **Selhub, Jacob**; Rosenberg, Irwin H.
CS (1) MHS, Jean Mayer USDA Human Nutrition Res. Cent. Aging Tufts Univ., 711 Washington St., Boston, MA 02111 USA
SO Arthritis & Rheumatism, (1997) Vol. 40, No. 4, pp. 718-722. ISSN: 0004-3591.
DT Article
LA English
AB Objective. To assess total homocysteine (tHcy) metabolism in patients with rheumatoid arthritis (RA). Methods. Assessments were performed to determine the fasting levels of tHcy and the increase in tHcy in response to methionine (Met) challenge in blood samples from 28 patients with RA and 20 healthy age-matched control subjects. Results. Fasting levels of tHcy were 33% higher in the RA patients than in the control subjects (mean \pm SD 11.7 \pm 1.5 nmoles/ml versus 8.8 \pm 1.1 nmoles/ml; P \lt 0.01). Four hours after Met challenge, the increase in plasma tHcy levels (DELTA-tHcy) was higher in the RA patients (20.9 \pm 10.4 nmoles/ml) than in the control subjects (15.5 \pm 1.6 nmoles/ml) (P \lt 0.02). In a subgroup analysis, the DELTA-tHcy in patients taking methotrexate (12.9 \pm 2.2 nmoles/ml) did not differ from that in the control group, while the DELTA-tHcy in patients not taking methotrexate (25.3 \pm 1.7 nmoles/ml) was significantly higher (P \lt 0.0001). Conclusion. Elevated tHcy levels occur commonly in patients with RA, and may explain some of the increased cardiovascular mortality seen in such patients. Studies of the prevalence and mechanism of hyperhomocysteinemia in RA are warranted.

CC Biochemical Studies - General *10060
Metabolism - General Metabolism; Metabolic Pathways *13002
Bones, Joints, Fasciae, Connective and Adipose Tissue - General; Methods *18001
Immunology and Immunochemistry - General; Methods *34502

BC Hominidae *86215

IT Major Concepts
Biochemistry and Molecular Biophysics; Immune System (Chemical Coordination and Homeostasis); Metabolism; Skeletal System (Movement and Support)

IT Chemicals & Biochemicals
HOMOCYSTEINE; METHIONINE

IT Miscellaneous Descriptors
ABNORMAL METABOLISM; CONNECTIVE TISSUE DISEASE; HOMOCYSTEINE; IMMUNE SYSTEM DISEASE; JOINT DISEASE; METABOLISM; METHIONINE; PATIENT; RHEUMATOID ARTHRITIS; RHEUMATOLOGY; TOTAL FASTING BLOOD LEVELS

ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia

ORGN Organism Name
human (Hominidae)

ORGN Organism Superterms
animals; chordates; humans; mammals; primates; vertebrates

RN 454-28-4Q (HOMOCYSTEINE)
6027-13-0Q (HOMOCYSTEINE)
63-68-3 (METHIONINE)

L124 ANSWER 7 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1997:184718 BIOSIS
DN PREV199799483921
TI Plasma pyridoxal-PO-4 levels and homocysteine fall with inflammation in adjuvant arthritis.
AU Chiang, E.-P.; Smith, D.; Seyoum, E.; **Selhub, J.**;
Roubenoff, R.
CS Jean Mayer USDA HNRC at Tufts Univ., Boston, MA 02111 USA

SO FASEB Journal, (1997) Vol. 11, No. 3, pp. A177.
Meeting Info.: Annual Meeting of the Professional Research Scientists on
Experimental Biology 97 New Orleans, Louisiana, USA April 6-9, 1997
ISSN: 0892-6638.

DT Conference; Abstract

LA English

CC General Biology - Symposia, Transactions and Proceedings of Conferences,
Congresses, Review Annuals 00520
Biochemical Studies - Vitamins *10063
Pathology, General and Miscellaneous - Inflammation and Inflammatory
Disease *12508
Metabolism - Water-Soluble Vitamins *13018
Nutrition - Water-Soluble Vitamins *13210
Blood, Blood-Forming Organs and Body Fluids - Blood and Lymph Studies
*15002
Bones, Joints, Fasciae, Connective and Adipose Tissue - Pathology *18006
Gerontology *24500

BC Muridae *86375

IT Major Concepts
Aging; Biochemistry and Molecular Biophysics; Blood and Lymphatics
(Transport and Circulation); Metabolism; Nutrition; Pathology; Skeletal
System (Movement and Support)

IT Chemicals & Biochemicals
HOMOCYSTEINE; PYRIDOXAL-5'-PHOSPHATE; VITAMIN B6

IT Miscellaneous Descriptors
ADJUVANT ARTHRITIS; AGING; BLOOD AND LYMPHATICS; BODY WEIGHT;
HOMOCYSTEINE; INFLAMMATION; JOINT DISEASE; LEWIS RAT; NUTRITION; OLD;
PLASMA; PLASMA LEVELS; PYRIDOXAL-5'-PHOSPHATE; SKELETAL SYSTEM; VITAMIN
B6; YOUNG

ORGN Super Taxa
Muridae: Rodentia, Mammalia, Vertebrata, Chordata, Animalia

ORGN Organism Name
Muridae (Muridae)

ORGN Organism Superterms
animals; chordates; mammals; nonhuman vertebrates; nonhuman mammals;
rodents; vertebrates

RN 454-28-4Q (HOMOCYSTEINE)
6027-13-0Q (HOMOCYSTEINE)
54-47-7 (PYRIDOXAL-5'-PHOSPHATE)
8059-24-3 (VITAMIN B6)

L124 ANSWER 8 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AN 1996:534324 BIOSIS

DN PREV199699256680

TI Plasma homocysteine as a risk factor for atherothrombotic events in
systemic lupus erythematosus.

AU Petri, Michelle; Roubenoff, Ronenn (1); Dallal, Gerard E.;
Nadeau, Marie R.; Selhub, Jacob; Rosenberg, Irwin H.

CS (1) Jean Mayer USDA, Human Nutrition Res. Cent. Aging, Tufts Univ.,
Boston, MA 02111 USA

SO Lancet (North American Edition), (1996) Vol. 348, No. 9035, pp. 1120-1124.
ISSN: 0099-5355.

DT Article

LA English

AB Background: The aim of this study was to asses whether plasma homocysteine
is a risk factor for stroke and other thrombotic events in patients with
systemic lupus erythematosus (SLE) sbd a condition known to be associated
with premature atherothrombotic complications. Methods: In this
prospective study, we investigated the association between homocysteine
and risk of stroke and thrombotic events in 337 SLE patients in the
Hopkins Lupus Cohort Study, with follow-up of 1619 person-years (mean 4.8
(SD 1.7) years). Each patient had four follow-up assessments per year to
obtain information about established risk factors for thrombosis and

coronary artery disease. The prospectively defined endpoints were occurrence of stroke and arterial or venous thrombotic events between 1987 and 1995. Blood samples were taken at study entry from fasting patients. Plasma homocysteine, folate, vitamin B12, and pyridoxal 5'-phosphate (PLP) concentrations were measured. Raised homocysteine concentrations were defined as more than 14.1 $\mu\text{mol/L}$. Findings 93% of the study population were women, 54% African American, and 45% white. The mean age of participants was 34.9 (SD 11.7) years. During follow-up there were 29 cases of stroke and 31 arterial thrombotic events. Raised homocysteine concentrations were found in 51 (15%) SLE patients. The log-transformed total homocysteine concentrations correlated with serum folate ($r=0.31$, $p=0.0001$). In univariate analyses, raised homocysteine concentrations were significantly associated with stroke (odds ratio 2.24 (95% CI 1.22-4.13), $p=0.01$) and arterial thrombotic events (3.74 (1.96-7.13), $p=0.0001$). After adjustment for established risk factors, total plasma homocysteine concentrations remained an independent risk factor for stroke (2.44 (1.04-5.75), $p=0.04$) and arterial thromboses (3.49 (0.97-12.54), $p=0.05$). Interpretation: Homocysteine is a potentially modifiable, independent risk factor for stroke and thrombotic events in patients with SLE.

- CC Cardiovascular System - Blood Vessel Pathology *14508
 Blood, Blood-Forming Organs and Body Fluids - Blood and Lymph Studies *15002
 Blood, Blood-Forming Organs and Body Fluids - Blood, Lymphatic and Reticuloendothelial Pathologies *15006
 Bones, Joints, Fasciae, Connective and Adipose Tissue - Pathology *18006
 Integumentary System - Pathology *18506
 Nervous System - Pathology *20506
 Immunology and Immunochemistry - Immunopathology, Tissue Immunology *34508
- BC Hominidae *86215
- IT Major Concepts
 Blood and Lymphatics (Transport and Circulation); Cardiovascular Medicine (Human Medicine, Medical Sciences); Clinical Immunology (Human Medicine, Medical Sciences); Dermatology (Human Medicine, Medical Sciences); Hematology (Human Medicine, Medical Sciences); Neurology (Human Medicine, Medical Sciences); Skeletal System (Movement and Support)
- IT Chemicals & Biochemicals
 HOMOCYSTEINE
- IT Miscellaneous Descriptors
 CARDIOVASCULAR MEDICINE; CONNECTIVE TISSUE DISEASE; HEMATOLOGY; IMMUNE SYSTEM DISEASE; NERVOUS SYSTEM DISEASE; NEUROLOGY; PATIENT; PLASMA HOMOCYSTEINE; PREMATURE ATHEROTHROMBOTIC COMPLICATIONS; RISK FACTOR; STROKE; SYSTEMIC LUPUS ERYTHEMATOSUS; VASCULAR DISEASE
- ORGN Super Taxa
 Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
- ORGN Organism Name
 human (Hominidae)
- ORGN Organism Superterms
 animals; chordates; humans; mammals; primates; vertebrates
- RN 454-28-4Q (HOMOCYSTEINE)
 6027-13-0Q (HOMOCYSTEINE)
- L124 ANSWER 9 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AN 1996:501658 BIOSIS
 DN PREV199699224014
 TI Abnormal homocysteine (HC) metabolism in SLE is linked to low vitamin B6.
 AU Roubenoff, R.; Abad, L. W.; Chiang, E.-P.; Carton, M.; Nadeau, M.; Selhub, J.; Rosenberg, I. H.
 CS Human Nutrition Res. Cent., Tufts Univ., Medford, MA 02155 USA
 SO Arthritis & Rheumatism, (1996) Vol. 39, No. 9 SUPPL., pp. S202.
 Meeting Info.: 60th National Scientific Meeting of the American College of Rheumatology and the 31st National Scientific Meeting of the Association

of Rheumatology Health Professionals Orlando, Florida, USA October 18-22, 1996

ISSN: 0004-3591.

DT Conference

LA English

CC Pathology, General and Miscellaneous - Inflammation and Inflammatory Disease *12508

Metabolism - Proteins, Peptides and Amino Acids *13012

Metabolism - Water-Soluble Vitamins *13018

Metabolism - Metabolic Disorders *13020

Nutrition - Malnutrition; Obesity *13203

Nutrition - Water-Soluble Vitamins *13210

Cardiovascular System - Blood Vessel Pathology *14508

Bones, Joints, Fasciae, Connective and Adipose Tissue - Pathology *18006

Nervous System - Pathology *20506

Immunology and Immunochemistry - Immunopathology, Tissue Immunology *34508

BC Hominidae *86215

IT Major Concepts

Cardiovascular Medicine (Human Medicine, Medical Sciences); Clinical Immunology (Human Medicine, Medical Sciences); Metabolism; Neurology (Human Medicine, Medical Sciences); Nutrition; Pathology; Skeletal System (Movement and Support)

IT Chemicals & Biochemicals

HOMOCYSTEINE; VITAMIN B6

IT Miscellaneous Descriptors

ABNORMAL HOMOCYSTEINE METABOLISM; CONNECTIVE TISSUE DISEASE; FEMALE; HOMOCYSTEINE; IMMUNE SYSTEM DISEASE; JOINT DISEASE; MEETING POSTER; METABOLIC DISEASE; METABOLISM; NERVOUS SYSTEM DISEASE; NUTRITION; NUTRITIONAL DISEASE; PATIENT; RHEUMATOID ARTHRITIS; STROKE; SYSTEMIC LUPUS ERYTHEMATOSUS; VASCULAR DISEASE; VITAMIN B6 DEFICIENCY

ORGN Super Taxa

Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia

ORGN Organism Name

human (Hominidae)

ORGN Organism Superterms

animals; chordates; humans; mammals; primates; vertebrates

RN 454-28-4Q (HOMOCYSTEINE)

6027-13-0Q (HOMOCYSTEINE)

8059-24-3 (VITAMIN B6)

L124 ANSWER 10 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AN 1996:211767 BIOSIS

DN PREV199698767896

TI Effect of inflammatory cachexia on pyridoxal phosphate, folate, and B12 in Lewis rats.

AU Chiang, E.; Smith, D.; Abad, L.; Nadeau, M.; Selhub, J.; Roubenoff, R.

CS Jean Mayer USDA-HNRC, Tufts Univ., Boston, MA 02111 USA

SO FASEB Journal, (1996) Vol. 10, No. 3, pp. A803.

Meeting Info.: Experimental Biology 96, Part II Washington, D.C., USA

April 14-17, 1996

ISSN: 0892-6638.

DT Conference

LA English

CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520

Biochemical Studies - Vitamins 10063

Pathology, General and Miscellaneous - General *12502

Pathology, General and Miscellaneous - Inflammation and Inflammatory Disease *12508

Nutrition - Malnutrition; Obesity *13203

Nutrition - Water-Soluble Vitamins *13210

Digestive System - Pathology *14006
 Bones, Joints, Fasciae, Connective and Adipose Tissue - Pathology *18006
 Medical and Clinical Microbiology - Bacteriology *36002
 BC Mycobacteriaceae 08881
 Muridae *86375
 IT Major Concepts
 Digestive System (Ingestion and Assimilation); Infection; Nutrition;
 Pathology; Skeletal System (Movement and Support)
 IT Chemicals & Biochemicals
 PYRIDOXAL PHOSPHATE; FOLATE
 IT Miscellaneous Descriptors
 ADJUVANT ARTHRITIS MODEL; HEPATIC DEPLETION; MEETING ABSTRACT
 ORGN Super Taxa
 Muridae: Rodentia, Mammalia, Vertebrata, Chordata, Animalia;
 Mycobacteriaceae: Eubacteria, Bacteria
 ORGN Organism Name
 Muridae (Muridae); Mycobacterium butyricum (Mycobacteriaceae)
 ORGN Organism Superterms
 animals; bacteria; chordates; eubacteria; mammals; microorganisms;
 nonhuman mammals; nonhuman vertebrates; rodents; vertebrates
 RN 54-47-7 (PYRIDOXAL PHOSPHATE)
 59-30-3 (FOLATE)

L124 ANSWER 11 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AN 1995:316275 BIOSIS
 DN PREV199598330575
 TI Validation of abbreviated oral methionine-loading test.
 AU Bostom, Andrew G. (1); **Roubenoff, Ronenn**; Dellaripa, Paul;
 Nadeau, Marie R.; Sutherland, Patrice; Wilson, Peter W. F.; Jacques, Paul
 F.; **Selhub, Jacob**; Rosenberg, Irwin H.
 CS (1) Framingham Study, 5 Thurber St., Framingham, MA 01701 USA
 SO Clinical Chemistry, (1995) Vol. 41, No. 6 PART 1, pp. 948-949.
 ISSN: 0009-9147.
 DT Letter
 LA English
 CC Clinical Biochemistry; General Methods and Applications 10006
 Biochemical Studies - Proteins, Peptides and Amino Acids 10064
 Pathology, General and Miscellaneous - Diagnostic *12504
 Metabolism - Proteins, Peptides and Amino Acids *13012
 Metabolism - Metabolic Disorders *13020
 Nutrition - Proteins, Peptides and Amino Acids *13224
 BC Hominidae *86215
 IT Major Concepts
 Metabolism; Nutrition; Pathology
 IT Miscellaneous Descriptors
 DIAGNOSTIC METHOD; HYPERHOMOCYSTEINEMIA
 ORGN Super Taxa
 Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
 ORGN Organism Name
 human (Hominidae)
 ORGN Organism Superterms
 animals; chordates; humans; mammals; primates; vertebrates

L124 ANSWER 12 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
 AN 1995:192666 BIOSIS
 DN PREV199598206966
 TI Dissociation between plasma pyridoxal-5'PO-4 (PLP) and evidence of PLP
 deficiency in chronic inflammation.
 AU Dellaripa, P. F.; **Selhub, J.**; Nadeau, M. R.; **Roubenoff,**
R.
 CS New England Med. Cent., Jean Mayer USDA HNRC, Tufts Univ., Boston, MA
 02111 USA
 SO FASEB Journal, (1995) Vol. 9, No. 3, pp. A153.

Meeting Info.: Experimental Biology 95, Part I Atlanta, Georgia, USA April 9-13, 1995
ISSN: 0892-6638.

DT Conference
LA English
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Biochemical Studies - Vitamins *10063
Pathology, General and Miscellaneous - Inflammation and Inflammatory Disease *12508
Metabolism - Metabolic Disorders *13020
Nutrition - Water-Soluble Vitamins *13210
Blood, Blood-Forming Organs and Body Fluids - Blood and Lymph Studies 15002
Bones, Joints, Fasciae, Connective and Adipose Tissue - Pathology *18006
Immunology and Immunochemistry - Immunopathology, Tissue Immunology *34508
Allergy *35500
BC Hominidae *86215
IT Major Concepts
Allergy (Clinical Immunology, Human Medicine, Medical Sciences); Biochemistry and Molecular Biophysics; Clinical Immunology (Human Medicine, Medical Sciences); Metabolism; Nutrition; Pathology; Skeletal System (Movement and Support)
IT Chemicals & Biochemicals
VITAMIN B
IT Miscellaneous Descriptors
MEETING ABSTRACT; METABOLIC DISORDER; RHEUMATOID ARTHRITIS; VITAMIN B
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
human (Hominidae)
ORGN Organism Superterms
animals; chordates; humans; mammals; primates; vertebrates
RN 98-92-0Q (VITAMIN B)
12001-76-2Q (VITAMIN B)

L124 ANSWER 13 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AN 1995:119684 BIOSIS

DN PREV199598133984

TI Abnormal vitamin B-6 status in rheumatoid cachexia: Association with spontaneous tumor necrosis factor alpha production and markers of inflammation.

AU **Roubenoff, Ronenn (1);** Roubenoff, Rebecca A.; **Selhub, Jacob;** Nadeau, Marie R.; Cannon, Joseph G.; Freeman, Lisa M.; Dinarello, Charles A.; Rosenberg, Irwin H.

CS (1) Body Composition Lab., USDA, HNRCA at Tufts Univ., 711 Washington St., Boston, MA 02111 USA

SO Arthritis & Rheumatism, (1995) Vol. 38, No. 1, pp. 105-109.

ISSN: 0004-3591.

DT Article

LA English

AB Objective. To compare vitamin B-6 levels in rheumatoid arthritis (RA) patients and healthy control subjects. Methods. We measured levels of vitamin B-6 in 23 adults with well-controlled RA, and in 23 healthy control subjects matched for age, sex, race, and weight. Results. Although plasma folate and vitamin B-12 concentrations and erythrocyte B-6 activity coefficients were similar in the patients and controls, plasma levels of pyridoxal-5'-phosphate (PLP) were lower in the RA patient group (mean \pm SD 46.1 \pm 48.1 versus 69.3 \pm 58.4 nmoles/liter; P \leq 0.004). In multivariate analyses, PLP was inversely associated with tumor necrosis factor alpha (TNF-alpha) production by peripheral blood mononuclear cells (PBMC) (P \leq 0.001), after adjustment for age, pain score, erythrocyte

sedimentation rate, and use of nonsteroidal antiinflammatory drugs.
Conclusion. PLP levels are reduced in patients with RA. This reduction is associated with TNF-alpha production by PBMC.

- CC Cytology and Cytochemistry - Human *02508
Clinical Biochemistry; General Methods and Applications *10006
Biochemical Studies - Vitamins 10063
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Biochemical Studies - Carbohydrates 10068
Pathology, General and Miscellaneous - General *12502
Pathology, General and Miscellaneous - Inflammation and Inflammatory Disease *12508
Metabolism - Carbohydrates *13004
Metabolism - Proteins, Peptides and Amino Acids *13012
Metabolism - Fat-Soluble Vitamins *13016
Nutrition - Malnutrition; Obesity *13203
Nutrition - Fat-Soluble Vitamins *13208
Blood, Blood-Forming Organs and Body Fluids - Blood and Lymph Studies *15002
Blood, Blood-Forming Organs and Body Fluids - Blood Cell Studies *15004
Blood, Blood-Forming Organs and Body Fluids - Lymphatic Tissue and Reticuloendothelial System *15008
Endocrine System - General *17002
Bones, Joints, Fasciae, Connective and Adipose Tissue - Pathology *18006
Immunology and Immunochemistry - Immunopathology, Tissue Immunology *34508
- BC Hominidae *86215
- IT Major Concepts
Blood and Lymphatics (Transport and Circulation); Cell Biology;
Clinical Chemistry (Allied Medical Sciences); Clinical Immunology
(Human Medicine, Medical Sciences); Endocrine System (Chemical
Coordination and Homeostasis); Metabolism; Nutrition; Pathology;
Skeletal System (Movement and Support)
- IT Chemicals & Biochemicals
VITAMIN B6; FOLATE; VITAMIN B12; PYRIDOXAL-5'-PHOSPHATE
- IT Miscellaneous Descriptors
ERYTHROCYTE; FOLATE; PERIPHERAL BLOOD MONONUCLEAR CELL;
PYRIDOXAL-5'-PHOSPHATE; RHEUMATOID ARTHRITIS; TUMOR NECROSIS
FACTOR-ALPHA; VITAMIN B12
- ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
- ORGN Organism Name
human (Hominidae)
- ORGN Organism Superterms
animals; chordates; humans; mammals; primates; vertebrates
- RN 8059-24-3 (VITAMIN B6)
59-30-3 (FOLATE)
68-19-9 (VITAMIN B12)
54-47-7 (PYRIDOXAL-5'-PHOSPHATE)

- L124 ANSWER 14 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1995:4370 BIOSIS
DN PREV199598018670
TI Homocysteine (HC): An independent risk factor for stroke in systemic lupus erythematosus (SLE).
AU Petri, M. (1); Roubenoff, R.; Nadeau, M.; Selhub, J.;
Rosenberg, I.
CS (1) Johns Hopkins Univ. Sch. Med., Baltimore, MD USA
SO Arthritis & Rheumatism, (1994) Vol. 37, No. 9 SUPPL., pp. S281.
Meeting Info.: 58th National Scientific Meeting of the American College of Rheumatology and the 29th National Scientific Meeting of the Association of Rheumatology Health Professionals Minneapolis, Minnesota, USA October 23-27, 1994
ISSN: 0004-3591.

DT Conference
LA English
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Pathology, General and Miscellaneous - Diagnostic 12504
Pathology, General and Miscellaneous - Inflammation and Inflammatory Disease *12508
Cardiovascular System - Blood Vessel Pathology *14508
Blood, Blood-Forming Organs and Body Fluids - Blood, Lymphatic and Reticuloendothelial Pathologies *15006
Bones, Joints, Fasciae, Connective and Adipose Tissue - Pathology *18006
Immunology and Immunochemistry - Immunopathology, Tissue Immunology *34508
BC Hominidae *86215
IT Major Concepts
Cardiovascular Medicine (Human Medicine, Medical Sciences); Clinical Immunology (Human Medicine, Medical Sciences); Hematology (Human Medicine, Medical Sciences); Pathology; Skeletal System (Movement and Support)
IT Chemicals & Biochemicals
HOMOCYSTEINE
IT Miscellaneous Descriptors
ATHEROSCLEROSIS; MEETING ABSTRACT; MEETING POSTER; PROGNOSTIC IMPLICATION; THROMBOSIS
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
human (Hominidae)
ORGN Organism Superterms
animals; chordates; humans; mammals; primates; vertebrates
RN 6027-13-0 (HOMOCYSTEINE)

L124 ANSWER 15 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1994:9395 BIOSIS
DN PREV199497022395
TI Low blood pyridoxal-phosphate (PLP) in rheumatoid arthritis (RA) is driven by tumor necrosis factor-alpha (TNF).
AU Roubenoff, R. (1); Selhub, J.; Dinarello, C. A.
CS (1) USDA Human Nutr. Res. Cent., Tufts Univ., Boston, MA 02111 USA
SO Arthritis and Rheumatism, (1993) Vol. 36, No. 9 SUPPL., pp. S124.
Meeting Info.: 57th Annual Scientific Meeting of the American College of Rheumatology San Antonio, Texas, USA November 7-11, 1993
ISSN: 0004-3591.
DT Conference
LA English
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Biochemical Studies - General 10060
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Biochemical Studies - Carbohydrates 10068
Pathology, General and Miscellaneous - Inflammation and Inflammatory Disease *12508
Metabolism - General Metabolism; Metabolic Pathways *13002
Metabolism - Carbohydrates *13004
Metabolism - Proteins, Peptides and Amino Acids *13012
Blood, Blood-Forming Organs and Body Fluids - Blood and Lymph Studies *15002
Blood, Blood-Forming Organs and Body Fluids - Lymphatic Tissue and Reticuloendothelial System *15008
Endocrine System - General *17002
Bones, Joints, Fasciae, Connective and Adipose Tissue - Pathology *18006
Immunology and Immunochemistry - Immunopathology, Tissue Immunology

*34508
BC Hominidae *86215
IT Major Concepts
 Blood and Lymphatics (Transport and Circulation); Clinical Immunology
 (Human Medicine, Medical Sciences); Endocrine System (Chemical
 Coordination and Homeostasis); Metabolism; Pathology; Skeletal System
 (Movement and Support)
IT Chemicals & Biochemicals
 PYRIDOXAL-PHOSPHATE
IT Miscellaneous Descriptors
 INFLAMMATORY MEDIATION; MEETING ABSTRACT; MEETING POSTER
ORGN Super Taxa
 Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
 human (Hominidae)
ORGN Organism Superterms
 animals; chordates; humans; mammals; primates; vertebrates
RN 54-47-7 (PYRIDOXAL-PHOSPHATE)

L124 ANSWER 16 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1993:268730 BIOSIS
DN PREV199344130880
TI Low blood pyridoxal phosphate (PLP) but not total B6 in chronic
inflammation is driven by tumor necrosis factor-alpha (TNF).
AU Rall, L.; Roubenoff, R.; Selhub, J.
CS USDA HNRCA, Tufts Univ., Boston, MA 02111 USA
SO FASEB Journal, (1993) Vol. 7, No. 3-4, pp. A728.
Meeting Info.: Meeting of the Federation of American Societies for
Experimental Biology on Experimental Biology '93 New Orleans, Louisiana,
USA March 28-April 1, 1993
ISSN: 0892-6638.
DT Conference
LA English
CC General Biology - Symposia, Transactions and Proceedings of Conferences,
Congresses, Review Annuals 00520
Biochemical Studies - Vitamins 10063
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Biochemical Studies - Carbohydrates 10068
Pathology, General and Miscellaneous - Inflammation and Inflammatory
Disease *12508
Metabolism - Carbohydrates *13004
Metabolism - Proteins, Peptides and Amino Acids *13012
Metabolism - Water-Soluble Vitamins *13018
Blood, Blood-Forming Organs and Body Fluids - Lymphatic Tissue and
Reticuloendothelial System *15008
Endocrine System - General *17002
BC Hominidae *86215
IT Major Concepts
 Blood and Lymphatics (Transport and Circulation); Endocrine System
 (Chemical Coordination and Homeostasis); Metabolism; Pathology
IT Chemicals & Biochemicals
 PYRIDOXAL PHOSPHATE; VITAMIN B6
IT Miscellaneous Descriptors
 ABSTRACT; METABOLISM; VITAMIN B6
ORGN Super Taxa
 Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
 human (Hominidae)
ORGN Organism Superterms
 animals; chordates; humans; mammals; primates; vertebrates
RN 54-47-7 (PYRIDOXAL PHOSPHATE)
8059-24-3 (VITAMIN B6)

=> d his

(FILE 'REGISTRY' ENTERED AT 09:22:27 ON 25 AUG 2002)

DEL HIS
E COBALAMIN/CN
L1 1 S E3
L2 3 S 13408-78-1/CRN
L3 1025 S 14613.1.1/RID
L4 1021 S L3 NOT L1,L2

FILE 'HCAPLUS' ENTERED AT 09:27:46 ON 25 AUG 2002

L5 885 S L1
L6 6542 S ?COBALAMIN?
L7 6562 S L5,L6
E COBALAMIN/CT
E E3+ALL
E ROUBENOFF R/AU
L8 27 S E4
E SELHUB J/AU
L9 161 S E3,E4
L10 6 S L7 AND L8,L9
SEL DN AN 1
L11 1 S L10 AND E1-E3
SEL RN

FILE 'REGISTRY' ENTERED AT 09:30:17 ON 25 AUG 2002

L12 16 S E4-E19
L13 1 S L12 AND L1-L4
L14 2 S 107-43-7 OR 6915-17-9
L15 298 S (107-43-7 OR 6915-17-9)/CRN
L16 0 S L12 AND L14,L15
L17 15 S L12 NOT L13,L14
L18 5 S 10360-12-0 OR 3432-99-3 OR 2800-34-2 OR 134-35-0 OR 58-05-9
L19 1 S 59-30-3
L20 9 S L17 NOT L18,L19
L21 14 S L18,L20
SEL RN
L22 158 S E20-E33/CRN
L23 81 S 59-30-3/CRN
L24 1 S L2 AND L23
L25 0 S L2 AND L22

FILE 'HCAPLUS' ENTERED AT 09:37:10 ON 25 AUG 2002

L26 1 S L24
L27 110 S L7 AND L21
L28 542 S L7 AND L19
L29 12 S L7 AND L22,L23
L30 614 S L27-L29
L31 961 S L7 AND (?FOLATE? OR ?FOLIC?)
L32 990 S L30,L31
L33 25 S L32 AND L14
L34 0 S L32 AND L15
L35 37 S L32 AND ?BETAIN?
L36 38 S L33,L35
L37 11041 S L4
L38 2195 S L37 AND L21,L19,L22,L23
L39 2194 S L37 AND (?FOLATE? OR ?FOLIC?)
L40 65 S L38,L39 AND (L14,L15 OR ?BETAIN?)
L41 84 S L36,L40
L42 7 S L41 AND ?ARTHRIT?
L43 1 S L41 AND CHONDROCYT?
L44 1 S L41 AND OVERVIEW

L45 5 S L41 AND NEUROLOGICAL
 L46 1 S L11 AND L41-L45
 L47 47 S L39 AND L5
 L48 6 S L47 AND L21
 L49 28 S L5 AND L21
 L50 1 S L5 AND L22
 L51 190 S L5 AND L19, L23
 L52 5 S L51 AND L14, L15
 L53 8 S L51 AND ?BETAIN?
 L54 8 S L52, L53
 SEL DN AN 1 4
 L55 2 S L54 AND E34-E39
 L56 3 S L11, L26, L46, L55
 L57 2 S L56 NOT 4/SC
 L58 2 S L57 AND L5-L11, L26-L57
 L59 182 S L51 NOT L41
 L60 41 S L59 AND (1 OR 63)/SC, SX
 L61 98 S L59 AND (17 OR 18)/SC, SX
 L62 125 S L60, L61
 L63 57 S L59 NOT L62
 SEL DN AN L62 77
 L64 1 S L62 AND E40-E42
 L65 3 S L58, L64 AND L5-L11, L26-L64
 L66 2 S L65 AND ?ARTHRIT?
 L67 3 S L65, L66

FILE 'HCAPLUS' ENTERED AT 10:13:13 ON 25 AUG 2002
 SEL HIT RN L67

FILE 'REGISTRY' ENTERED AT 10:13:28 ON 25 AUG 2002

L68 17 S E43-E59
 L69 1 S L68 AND L1-L4
 L70 15 S L68 AND L21, L19, L22, L23 NOT L24

FILE 'HCAPLUS' ENTERED AT 10:18:05 ON 25 AUG 2002

FILE 'WPIX' ENTERED AT 10:22:20 ON 25 AUG 2002

E A61K031-714/IC, ICM, ICS
 L71 70 S E3-E5
 E A61K031-714/ICA, ICI
 L72 5 S E4
 E A61K031:714/ICI
 L73 2 S E3
 E COBALAMIN/DCN
 L74 468 S ?COBALAMIN?
 L75 520 S L71-L74
 E ROUBENOFF R/AU
 L76 1 S E3
 E SELHUB J/AU
 L77 3 S E3
 L78 3 S L75 AND L76, L77
 L79 0 S L76 AND L77
 E US2000-255600/AP, PRN
 L80 1598 S 0279/DRN OR R00279/DCN OR (B03-E OR C03-E)/MC
 L81 1731 S L75, L80
 L82 1289 S V324/M0, M1, M2, M3, M4, M5, M6
 L83 2054 S L81, L82
 L84 73 S L83 AND ?FOLATE?
 L85 321 S L83 AND ?FOLIC? ACID
 E R24040+ALL/DCN
 E R08441+ALL/DCN
 E R00252+ALL/DCN
 E R00183+ALL/DCN

L86 463 S L83 AND (0183/DRN OR R00183/DCN OR A61K031-525/IC, ICM, ICS, ICA
L87 39 S L83 AND (?BETAIN? OR 0829/DRN OR R00829/DCN)
L88 30 S L84-L86 AND L87
SEL DN AN 9 20 L88
L89 2 S L88 AND E1-E4
L90 2 S L89 AND (?COBALAMIN? OR VIT?(S) (B12 OR B(S)12) OR ?FOLATE? OR

FILE 'WPIX' ENTERED AT 10:37:42 ON 25 AUG 2002

FILE 'MEDLINE' ENTERED AT 10:38:04 ON 25 AUG 2002

L91 4144 S L1 OR ?COBALAMIN?
E COBALAMIN/CT
E E3+ALL
L92 10514 S E2+NT
L93 11610 S E2/CN
L94 13351 S L91-L93
L95 108 S L94 AND L21
L96 2657 S L94 AND L19
E TETRAHYDROFOLATE/CT
E E27+ALL
L97 5305 S E24+NT
L98 1366 S E24/CN
L99 11271 S E23/CT, CN
L100 172 S L94 AND L97, L98
L101 2656 S L94 AND L99
L102 13351 S L94, L100
L103 2657 S L96, L101
L104 1278 S L14
L105 183 S L95, L100
L106 2657 S L96, L101
L107 3 S L104 AND L105
L108 13 S L104 AND L106
L109 4 S ?BETAIN? AND L105
L110 4 S L107, L109
L111 15 S ?BETAIN? AND L106
L112 14 S L108, L111 NOT L110
E DRUG COMBINATION/CT
E E6+ALL
L113 4 S E4+NT AND L105
L114 6 S DRUG THERAPY, COMBINATION+NT/CT AND L105
L115 9 S L113, L114
SEL DN AN 1 9
L116 2 S L115 AND E1-E6
L117 174 S L105 NOT L115
SEL DN AN L117 83 84 97 153
L118 4 S L117 AND E7-E18
L119 4 S L118 AND (FOLATE? OR ?FOLIC? ACID OR ?COBALAMIN? OR ?BETAIN?
L120 6 S L116, L119

FILE 'MEDLINE' ENTERED AT 10:50:17 ON 25 AUG 2002

FILE 'BIOSIS' ENTERED AT 10:50:23 ON 25 AUG 2002

E ROUBENOFF R/AU
L121 178 S E3, E4, E6-E8
E SELHUB J/AU
L122 345 S E3-E6, E8
L123 4645 S L7
L124 16 S L121 AND L122, L123

FILE 'BIOSIS' ENTERED AT 10:51:47 ON 25 AUG 2002